COMPUTER GAMING WORLD

VOL. 4 NO. 1

FEBRUARY 1984

$3.00



M.U.L.E. STRATEGY
COMPUTER GOLF
COMMODORE KEY
MURDER ON THE ZINDERNEUF
WARGAMES
GAME RATINGS
1983 INDEX



QUESTRON

Live the Fantasy and the Adventure.

STRATEGIC SIMULATIONS INC. PRESENTS A FANTASY ADVENTURE GAME: QUESTRON™
ONE OF THE FINEST CHAPTERS IN THE NEVER-ENDING SAGA OF THE BATTLE BETWEEN GOOD AND EVIL
Starring YOU as THE HERO • MESRON, THE GOOD WIZARD • MANTOR, THE EVIL SORCEROR
AND HIS HORDES OF HERO-CRUNCHING MONSTERS • Written and directed by CHARLES DOUGHERTY
ON 48K DISK FOR YOUR APPLE® II WITH APPLESOFT ROM CARD, APPLE II+, IIe, OR APPLE III. ALSO FOR ATARI® HOME COMPUTERS.

APPLE® version now showing at a computer/software or game store near you. ATARI® version coming Spring 1984.

PG | THIS GAME RATED POSITIVELY GREAT. | Ideal for Fantasy Adventurers of all ages.

APPLE is a registered trademark of Apple Computer, Inc.

STRATEGIC SIMULATIONS INC

ATARI is a registered trademark of Atari, Inc.

If there are no convenient stores near you, VISA & Mastercard holders can order direct by calling **800-227-1617, ext. 335 (toll free).** In California, call 800-772-3545, ext. 335. QUESTRON™ goes for **$49.95**, plus $2.00 for shipping and handling.

To order by mail, send your check to: STRATEGIC SIMULATIONS INC, 883 Stierlin Road, Bldg. A-200, Mountain View, CA 94043. (California residents, add 6.5% sales tax.) All our games carry a "14-day satisfaction or your money back" guarantee.

WRITE FOR A FREE COLOR CATALOG OF ALL OUR GAMES.

Menu

Vol. 4 No. 1 **February 1984**

STAFF

Editor:	Russell Sipe
Asst. Editor:	Kirk Robinson
Operations:	Suzanne Sipe
Ad Director:	Jay Eisenberg
Ad Manager:	Jeff Eisenberg
Ad Coordinator:	Dona Fischer
Art Director:	Tim Finkas
Layout:	Russell Sipe
Typesetting:	Harmony Graphics
Printing:	John McCoy Printing
Cover Printing:	Monarch
Cover Art:	Tim Finkas
Additional Art:	Mark Eliot

COMPUTER GAMING WORLD (ISSN 0744-6667) is published six times per year by Golden Empire Publications, Inc., 1337 North Merona St., Anaheim, CA 92805. Second Class Postage Paid at Anaheim, CA 92803.

POSTMASTER: Send address changes to Computer Gaming World, P.O. Box 4566, Anaheim, CA 92803-4566.

COMPUTER GAMING WORLD is available at computer, book, and game stores; and through subscriptions. The subscription rate for one year (six issues) is $12.50. Canadian subscriptions add $5.00. Outside of United States and Canada add $14.00 (Foreign air). All payments must be in U.S. dollars, made by check drawn on a U.S. Bank, Visa Card, Master Card, or money order.

Psalm 9: 1-2

Compuserve:	72435,1434
Source:	TCL920
Editorial office:	714-776-4979

NATIONAL ADVERTISING REPRESENTATIVE:

JE PUBLISHERS' REPRESENTATIVE COMPANY
6855 Santa Monica Blvd., Suite 200
Los Angeles, CA 90038

Los Angeles	(213) 467-2266
San Francisco	(415) 864-3252
New York	(212) 724-7767
Denver	(303) 595-4331
Dallas	(214) 660-2253
Boston	(617) 437-7628
Chicago	(312) 445-2489

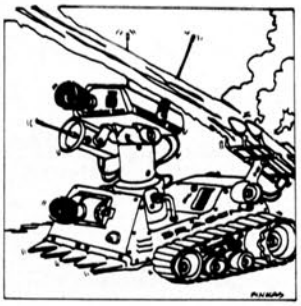
MEMBER OF GAMA THE GAME MANUFACTURERS ASSOCIATION

ADVERTISERS

FEATURES

Departments







Game Playing Aids from Computer Gaming World

COSMIC BALANCE SHIPYARD DISK

Contains over 20 ships that competed in the CGW COSMIC BALANCE SHIP DESIGN CONTEST. Included are *Avenger*, the tournament winner; *Blaze*, *Mongoose*, and *MKVP6*, the judge's ships. These ships are ideal for the gamer who cannot find enough competition or wants to study the ship designs of other gamers around the country. SSI's The Cosmic Balance is required to use the shipyard disk. PLEASE SPECIFY APPLE OR ATARI VERSION WHEN ORDERING. $15.00

ROBOTWAR TOURNAMENT DISK

CGW's Robotwar Diskette contains the source code for the entrants to the Second Annual CGW Robotwar Tournament (with the exception of NordenB) including the winner, DRAGON. Also included is the winner of the First Annual Tournament, NORDEN+. Twelve robots in all. Muse Software's ROBOTWAR™ required to use tournament disk. $12.00.

CGW BASEBALL DISK

Contains the four teams of the All Star League reported on in 3.3 (AL West All Stars, Al East, NL West, and NL East); the six teams of the 1982 Winter League (see 3.3), the eight teams of the Greatest Baseball Team of All Time Tournament, and a reprint of the results of The GBTOAT tournament from issue 2.3. SSI's Computer Baseball Apple version required to use data disk. Apple version only. $12.00.

Send check or money order to: Computer Gaming World, Disk Order Dept., P.O. Box 4566, Anaheim, CA 92803-4566. California residents please add 6% sales tax. Allow 3-4 weeks for delivery.

BACK ISSUES ARE AVAILABLE

Send $2.75 plus $1.00 postage and handling per copy

2.3 — Wizardry; Tactics in Eastern Front; Time Zone Interview; Voyager I; West Coast Computer Faire Photos; Long Distance Gaming; Jabbertalky; Baseball Tournament Results; Olympic Decathlon; Lunar Lander (TRS-80); Swashbuckler; Silicon Cerebrum; Atari Arcade; Writing For CGW; and more!

2.4 — Warp Factor; Rendezvous; Economic Simulations for the Apple; Controller; Graf Spee; Starship Commander; Captain 80 Adventure Book; Horse Racing Classic; Knight of Diamonds; Dnieper River Line; Choplifter!; Casino; and more!

2.5 — Labrinthine (fiction); Software Piracy; Starblazer; Galactic Gladiators Review and Scenario; Atari—Exploring the Human Connection; Guadalcanal Campaign; Robot Tournament; The Road to Gettysburg; Cytron Masters; Starship Commander Notes; Invasion Orion; and more!

2.6 — History of a Wargame Design; Japanese Strategy in Guadalcanal Campaign; Four For The Atari; Eastern Front Scenarios; Star Maze; Legionnaire; Cytron Masters Upgrade; Apple to Atari; Andromeda Conquest; Torpedo Fire Scenarios; Beyond Sargon II; and more!

3.1 — Test Pilot (fiction); Serpentine; Cosmic Balance; S.E.U.I.S.; Armor Assault; The Arcade Machine; The Atari Arena; The Learning Game; INDEX; and more!

3.2 — Computer Games in 1983; Cosmic Balance Tactics and Ship Design; Zork! Overview; Ultima II; Millionaire; Robotwar Tournament Results; Mockingboard Sound Board; Epidemic; Game Ratings; and more!

3.3 — Close Assault; Computer Ambush; Adventure Game Contest; Pinball Construction Set; Germany 1985; Galactic Attack; Two Computer Baseball Leagues; Chess 7.0; 100 games rated; and more!

3.4 — Suspended; M.U.L.E.; Battle for Normandy Strategy; Serpent's Star Hints; Cosmic Balance Contest Results; Knights of the Desert; Galactic Adventures; Computer Golf!; Bomb Alley; Game Ratings; and more!

3.5 — Electronic arts; Combat Leader; Archon; Lode Rnner; TAC; Paris In Danger; Boardgamer Meets Computer; Cosmic Balance II; Delta Squadron; Zork III Tips; and more!

3.6 — Ultima III; Operation Whirlwind; Reach For The Stars; Legacy of Llygamyn; Broadsides; North Atlantic '86; Zork II Tips; and more!



INSIDE THE INDUSTRY

by Dana Lombardy

Here are the results of the readers survey in the October, 1983 issue of *CGW.*

In that survey, we asked readers what other types of games they played before they began playing computer games, and what other types of games they still play now that they're computer gamers.

Part I asked which *one* statement below best described the individual reader's gaming experience. (Numbers to the right of each statement represent the percentage of readers that answered "yes" to that statement.)

A.	I didn't play any other games regularly (at least 3 to 4 times a month) before I got into computer games, and I still don't play anything except computer games.	18.6%
B.	I didn't play any other types of games regularly before I got into computer games, but now I play other types of games regularly (as well as computer games).	3.5%
C.	I played other types of games regularly, and still play these other games regularly, as well as play computer games.	46.9%
D.	I used to play other types of games regularly, but now I play *only* computer games regularly.	31.0%

Part II asked those readers who answered "yes" to statements B. or C. above to check one or more of the following types of games they now play regularly (other than computer games).

	B.	C.
Role-Playing Games (such as *Dungeons & Dragons®*)	75%	50.1%
Wargames (such as *Squad Leader)*	50%	56.6%
Miniatures Wargames (using scale models/ soldiers	0%	20.8%
Abstract Strategy Games such as chess, go, etc.)	50%	56.6%
Coin-operated Arcade Games (such as *Pac Man)*	50%	43.4%

(Totals add up to more than 100% because a reader could check more than one type of game.)

Thirty-one percent of gamers who used to play other types of games now play computer games almost exclusively. This was offset just slightly by the few who had never played other types of games but got into them as a result of playing computer games (3.5% of the readers who responded).

This net loss (27.5%) confirms what non-computer game companies have suspected: computer games have "stolen" their customers-or at least a good number of them.

While it may be comforting to non-computer game companies that 46.9% of the readers who responded to the survey still play other types of games (as well as computer games), even these gamers may be buying fewer wargames, role-playing games, etc., than they used to.

Of those computer gamers who started playing other types of games, most became involved with role-playing games such as *Dungeons & Dragons®* , *Traveller®* , etc. Wargames, abstract strategy games, and coin-op arcade games all tied for second place with an equal number of these readers. No reader became involved with miniatures wargames as a result of playing computer games.

Of those computer gamers who still play other types of games regularly, their order of preference is: wargames (56.6%), abstract strategy games (56.6%), role-playing games (50.1%), and coin-op arcade games (43.4%). Only 20.8% of computer gamers still playing non-computer games are involved with miniatures wargames.

Part III asked those readers who answered "yes" to statements C. or D. above to check one or more of the following types of games they used to play regularly before they got involved with computer games.

	C.	D.
Role-Playing Games	49.1%	31.4%
Wargames	60.4%	65.7%
Miniatures Wargames	24.5%	17.1%
Abstract Strategy Games	54.7%	22.9%
Coin-op Arcade Games	50.9%	37.1%

This last part reveals the most interesting information about what types of games "lost" customers to computer gaming.

Of those computer gamers who still play other types of games regularly, one category — role-playing games — actually showed a slight gain in involvement (49.1% before computer games, 50.1% after).

There was a slight drop in involvement in wargaming after they started playing computer games: 60.4% played wargames before they started playing computer games, and 56.6% of these same gamers are still involved with board wargames (a 3.8% drop). 24.5% played miniatures wargames before getting into computer games, and 20.8% of these gamers stayed with it after they became computer gamers (a 3.7% drop).

(The data seems to suggest that miniatures wargamers who are now

computer gamers are not a separate and distinct group of wargamers. Instead, the figures imply that a percentage of board wargamers are also miniatures wargamers. In this case, all miniatures wargamers also play board wargames).

The numbers of readers involved with abstract strategy games actually increased slightly after becoming computer gamers (54.7% before getting into computer games, 56.6% after).

The biggest drop came among coin-op arcade gamers. Before they got into computer games, 50.9% of the readers played coin-op games. Now only 43.4% of the readers continue to play these games (a 7.5% drop).

However, all these figures are so small that it's reasonable to assume that about the same number of gamers are still playing other types of games as played them before their involvement with computer games.

Of those readers who used to play other games but now only play computer games, 65.7% used to play wargames, 17.1% used to play miniatures wargames, 37.1% used to play coin-op games but no longer do so, 31.4% used to play role-playing games, and 22.9% of these readers used to play abstract strategy games.

What does this mean in hard numbers? If we consider only the circulation of *CGW* (25,000 readers), over 5,000 former wargamers no longer play these games — they now play computer games exclusively. An additional 360 wargamers no longer are active with these games even though they still play other types of games (as well as computer games).

The other categories of games did not lose as many customers to computer games. (There is substantial overlap among the types of games that gamers used to or still play).

If the readers survey of *CGW* is an accurate reflection of the average computer gaming hobbyist, these percentages translate into much bigger losses.

It's been guesstimated that there are about 50,000 computer wargamers in the U.S. If the percentages from the *CGW* survey are applied to this figure, over 16,000 of these computer gamers used to play wargames but no longer do so.

It may be reasonable to assume that the majority of these 16,000 wargamers were "hard-core" hobbyists who bought some of the wargames published by smaller game companies. Such companies print only 1,000 to 2,000 copies of a new wargame title. Even a "large" wargame publisher might print just 5,000 copies of a new title.

Computer games may not have "killed" these smaller wargame companies, but they've certainly halted recent growth.

What does this mean to the readers of *CGW*?

Since the small non-computer game companies can't "fight" the computer game companies for your attention and dollars, some of them are "joining" the computer game market instead.

Game Designers' Workshop (makers of *Traveller®*), Yaquinto Publications, Simulations Canada, and others are entering the computer game market with their own designs in 1984. Some of these games will be computer versions of their successful board and role-playing games, and some will be brand-new titles.

These companies are noted for having very good game designs, and should bring some fresh and interesting games into the computer game hobby in 1984.

If you've been concerned that there are too many computer games that look and play alike, 1984 may be the year you'll see some really *different* games for your personal computer.

INDUSTRY NEWS



We are using Industry News this issue to report on our impressions of the Winter Consumer Electronics Show recently held in Las Vegas. But first, **a retraction.** In our last issue (p.11) we reported that **Avalon Hill Game Co.,** was negotiating the sale of **Computer Diplomacy** to a larger company. We were wrong. Eric Dott, president of Avalon Hill informs us that they never negotiated the sale of the game to anyone. What they *have* done is set-up a marketing agreement with **Radio Shack** who **will distribute the TRS-80 version** of CD. The IBM-PC version is being distributed through their traditional marketing network. We saw the IBM-PC version of the game at CES and were impressed with the graphics. The IBM version has already been shipped to stores. The TRS-80 version should be in Radio Shack stores in the near future. Other titles nearing release from AH are **Dreadnaught**, WWII Atlantic naval game for the Apple; **Gulf Strike,** computer version of the detailed board game from Victory Games for the Atari; **Under Southern Skies**, a Graf Spee game for the Apple; **Panzer-Jadg** for the Atari and C-64; and a computer version of their boxing game **Title Bout** for the Atari.

Two new computers from Commodore were unveiled at CES. The Commodore 264 and 364V with be 64K machines that feature "on-board" ROM software. At the Commodore press conference it was unclear if these programs, which would include at least word processing and a spread sheet, will be in ROM inside the machine or in ROM cartridge. When asked about the fate of the C-64 Commodore said "we have never dropped any computer that we have manufactured and **we will not drop the C-64.** "

Apple had a token booth (they have never gone in for the CES show very much anyway). Their **Mouse-Paint** with mouse hardware looks like it will be an impressive addition to graphics software field. Lisa style software has trickled down to the Apple II.

Elsewhere in this issue we have a review of Avalon Hill's **Tournament Golf.** We indicate that we hope they will come out with other course disks for the game. They told us that they now have a **golf course data disk** with Pebble Beach and Augusta available which retails for $22.

Atari's huge booth seemed to shout "no retreating for Atari this year." But the Coleco booth was perhaps more impressive The name Coleco appeared in reduced print under **ADAM**. The Adam computer looks like a winner to us and there was an **impressive roster of computer games** from top computer game companies being demonstrated on the machine.

In other news, **Yaquinto Publications** of Dallas, TX and Poulos Publications of Northlake, IL have formed a joint venture marketing company to publish computer games, most notably, computer versions of Yaquinto board games such as **Ultimatum, Timeship, Tarot-The Teacher, Armor, Ironclads,** and **Market Madness** . They are also looking for designer-programmers. If interested contact Phillip Poulos at 312-345-4255.

Strategic Simulations has entered the fantasy adventure game field with **QUESTRON** for the Apple computer. The Atari version will be released in Spring ($49.95).

Taking a peek

Broderbund Software
17 Paul Dr.
San Rafael, CA 94903

DROL: Amusing arcade game with outstanding graphics. Players must rescue a red-headed girl and her propeller–beanied brother and their pets. The imagery is cheerful, funny and rich in detail and color. Apple, C-64, and Atari. $34.95.

LODE RUNNER: Atari version of their excellent action game. See review in CGW 3.5.

CBS Software
Greenwich, CT 06836

CHARLES GOREN: LEARNING BRIDGE MADE EASY:A tutorial bridge program developed for the computer by internationally–known bridge expert Charles Goren. The program teaches bidding, covering such topics as hand evaluation, opening bids, responses and rebids, and provides 100 especially selected hands for practice in play. Available for IBM–PC and Apple computers. $79.95.

Cyber Enterprises
P.O. Box 2066
Cerritos, CA 90701

CYBERCHESS:A chess instructional program. You provide the chessboard and it provides the moves for four games (two amateur games; rated to 1650 and two professional; rating 1600 to 2200$). You choose each move for one side from six choices. The program will score your selection(s) and provide you with a commentary on each of the possible moves. Only one move is correct. The games are actual games and commentary is provided by chess masters. Seventy additional disks with four games each are available. C-64, Apple, TRS-80. $29.95.

Datamost
8943 Fullbright Ave.
Chatsworth, CA 91311-2750

ARDY: Arcade game very similar to Sierra On-Line's OIL WELL game. Ardy each ants, larvae, etc., while avoiding attacks upon his tongue. Apple, Atari, C-64, $29.95.

CAVERN CREATURES: This is a case of "The box artwork has little to do with the game". The "creatures" in this game are an assortment of symbols (geometric forms, spaceships, and animals, etc., but not the green meany on the box cover). You blast the symbols as you descend a vertical cavern. The underground city looks nice, the game is so-so. Apple. $29.95.

COHEN'S TOWERS: An arcade game in which you must travel up and down elevators collecting and delivering packages. Joystick required. Atari and C-64. $29.95.

COSMIC TUNNELS: Ho–hum arcade game game in which you travel through the cosmic tunnels to find energy bars which help your planet survive which is good because you are their only hope which isn't very unique among computer games but then this game is typical of the genre period Atari $34.95.

MONSTER SMASH: Remake of a Apple game that was distributed by The Software Farm. We did not find it very interesting. Atari. $29.95.

MR. ROBOT: Best of this particular group of Datamost releases. A Donkey-Kong style game with 22 screens. Includes "Robot Factory" which lets design up to 26 different screens. Atari, Apple, C-64, $34.95.

NIGHTRAIDERS: Zaxxon type game, but not nearly as well done as the original. Atari, $29.95.

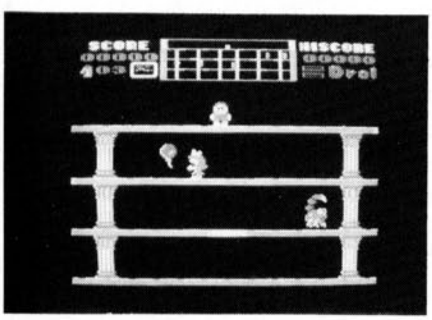
SUPER BUNNY: Bugs Bunny becomes Superman in this arcade game that plays like Frogger. When Super Bunny strikes a foe you are treated to a comic book style POW! or BAM! (remember the Batman TV series? Oh, you weren't born then? Sorry). Speaking of comic books, "The Origin of Super Bunny" makes up a good portion of the rulebook. Apple, $29.95.

TAIL OF BETA LYRAE: Scramble type game in which you drive the aliens from the asteriods in the tail of the double star Beta Lyrae. Worth checking out if you like Scramble type arcade games. Atari, $34.95.

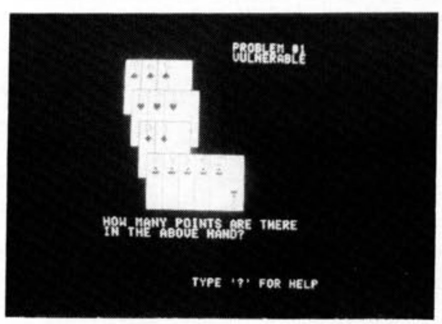
Datasoft
9421 Winnetka Ave.
Chatsworth, CA 91311

POOYAN: Based on the coin-op arcade game. You control the piglets as they attempt to ward off the evil wolves. Atari, CoCo, Apple, C-64.

THE SANDS OF EGYPT: An adventure game in which you play the role of Lord Charles Buckingham III, a famous explorer. Nice animation. You must overcome puzzling hieroglyphics, stubborn camels, and mystical mummies. Apple.

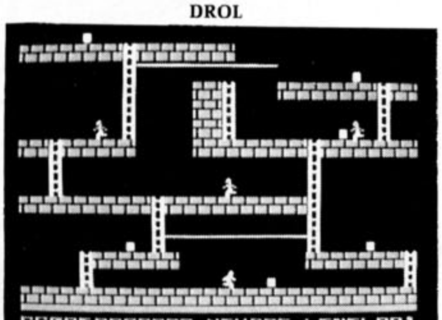


DROL

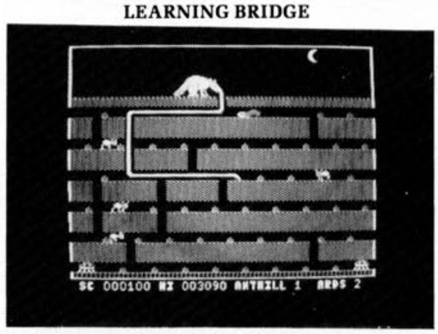


LEARNING BRIDGE

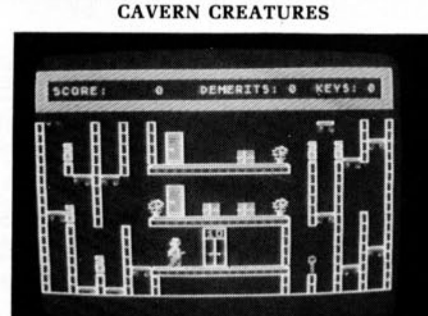

CAVERN CREATURES



LODE RUNNER



ARDY



COHEN'S TOWERS

Infocom Inc.
55 Wheeler St.
Cambridge, MA 02138

INFIDEL: Infocom begins its "Tales of Adventure" series with Infidel. The packaging is typically Infocom (i.e. outstanding). Left to die in the Egyptian desert with only a map, a cube of ancient markings and an incomplete hieroglyphics dictionary, Infidel challenges you to find the entrance to the last great pyramid and to unravel its mysteries. Most versions retail for $49.95, some cost more. Infidel runs on most computers.

Krell Software
1320 Stony Brook Rd.
Stony Brook, NY 11790

ADVENTURES IN FLESH: No this is not one of those porno programs, it is an educational game that explores the human anatomy and physiology. Using the format of an adventure game the player is miniaturized and travels through the body Fantastic Voyage style. One form of play involves exploring the various systems of the body attempting to discover disorders and disruptions in the body's normal healthy function. $49.95. Apple.

THE BLACK DEATH: Educational game that teaches basic principles of epidemiology and public health decision making. Players see a large grid representing healthy people (displayed in low-res graphics or in numbers). This visual map serves as the focal point of the player(s) attempts to control the spread of disease. Although the slowness of the game (in Basic we surmise) and the cumbersome cursor movement routine makes for the game appear to be outdated by current standards, don't let that fool you. The game does a good job at what it is aiming to do, teach individuals, or groups about disease control. Teachers and parents of teens should check–out this and other Krell games. Apple. $49.95.

PLATO'S CAVE: Some of the comments about Black Death are applicable here. The game does a good job of introducing students to the relationship between evidence and inference. Apple. $49.95.

MicroProse Software
10616 Beaver Dam Rd.
Hunt Valley, MD 21030

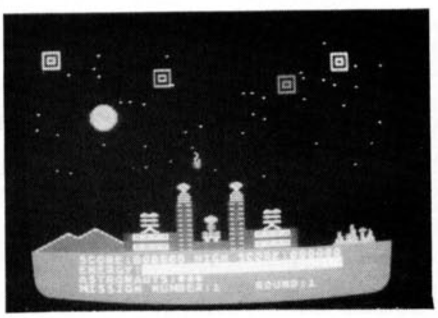
SOLOFLIGHT: Exciting, realistic 3–D flying simulation for the Atari and C-64. A more accurate than the old Sublogic Flight Simulator (we have not seen the new one yet). SF simulates realistic takeoffs, landings, and cross-country navigation under both visual and instrument flight rules among 21 different airports grouped in Kansas, Washington State, and the mountains of Colorado. Simulation options include touch and go landings, visual or instrument flying, full cockpit instrumentation, dual VOR navigation radios, instrument landing system, multiple air navigation maps, and emergency procedure practices. $34.95 and well worth it.

Muse Software
347 N. Charles St.
Baltimore, MD 21201

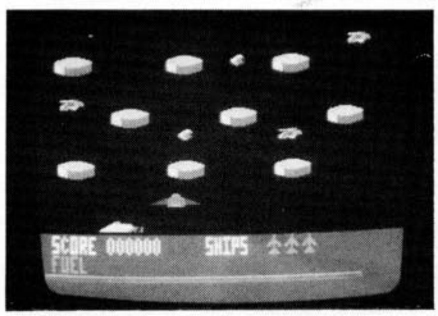
ANTONYM ANTICS: A colorful well designed word game for ages 6-13. The program teaches children the meaning of antonyms by illustrating each selection in cartoon form. Apple. $39.95.

THE FUNCTION GAME: TFG will graph mathematical equations for the high school or college student. It will help identify a variety of mathematical problems through the use of its graphs and diagrams. Using Algebra and Calculus, TFG makes learning much more interesting than just getting it from a textbook. Apple. $39.95.

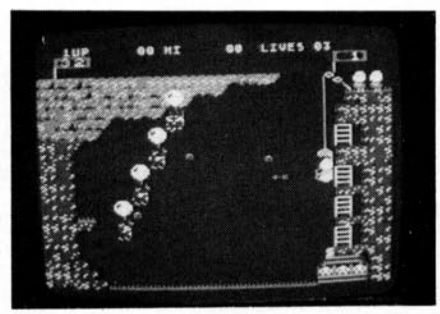
INTELLECTUAL DECATHLON: ID provides 10 different contest intended to stretch



COSMIC TUNNELS



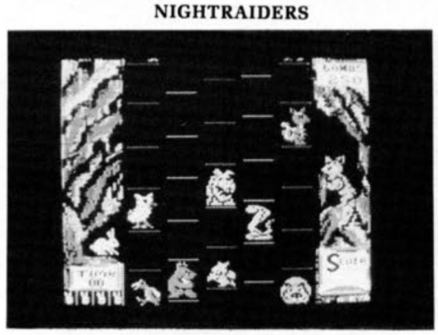
NIGHTRAIDERS



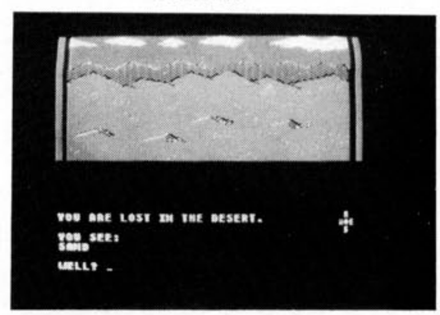
POOYAN



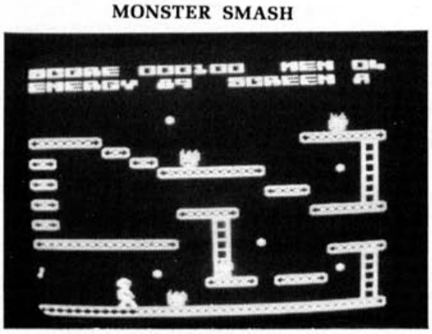
MONSTER SMASH



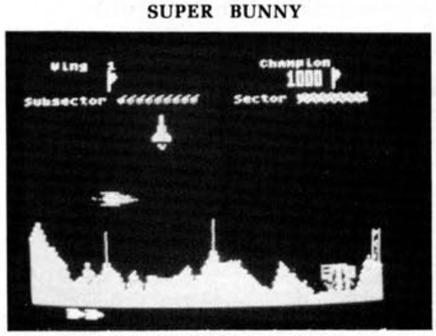
SUPER BUNNY



THE SANDS OF EGYPT



MR. ROBOT



TAIL OF BETA LYRAE



INFIDEL

your mind. If includes contest designed to test your ability to memorize, make complex and split second judgements, and identify abstract objects, musical notes and word associations. One event that we especially liked was the horse race event which required studying a variety of factors to determine the best betting scheme. You bet points that you have earned up to that point (very clever, that). Apple. $39.95.

Penguin Software
P.O.Box 311
Geneva, IL 60134

BOUNCING KAMUNGAS: Humorous arcade game in which you raise melons while avoiding having them smashed by the bouncing kamungas. Other hazards are lighting, sensitive snakes and Peronies (read "living bumps in the road". Now all we need is a game with roaming potholes.) Cute game. Apple. $19.95.

THE COVETED MIRROR:A graphics adventure with a lot of animation as well as imbedded arcade game sequences. You must find the missing piece of the wizard's broken mirror before the evil voar the Vermin does. Good value at $19.95. Apple.

PIE–MAN: Atari version of an Apple original. You are working in an automated bakery. you take the pies as the come out of the conveyor, put shipped cream and a cherry on them then take the finished pie to the pie bin (IBM probably stole the bakery idea from PIE–MAN when they did their commercial with Charlie Chaplin; uh, just kidding IBM). Sacks of flour, greasy floors, and tipsy wedding cake bakers make your job more difficult. Apple and now Atari. $19.95.

Sierra On–Line Inc.
Sierra On–Line Building
Coarsegold, CA 93614

AQUATRON:A Defender style game that combines air and sea fighting. Above the water you fight a variety of air and space craft. Dive below the water's surface to fight submarines. Apple.

Synapse Software
5221 Central Ave.
Richmond, CA 94804

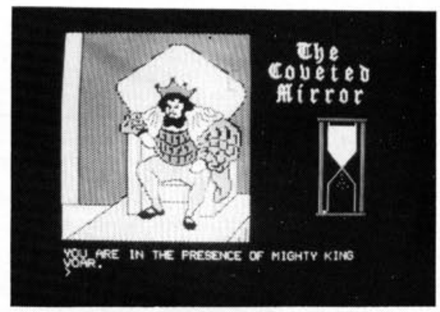
ENCOUNTER!: Combine the play style of Battlezone with the outstanding 3–D graphics of Way–Out and you have Encounter. Enjoyable. Atari.

RAINBOW WALKER: Tired of trying to find the rainbow, then walk on a rainbow. Someone has stolen the colors of the rainbow and Synapse has provided you with magic shoes that will allow you to restore the colors. Atari.

Sir–Tech Software
6 Main St.
Ogdensburg, NY 13669

CRYPT OF MEDEA:A Horror/Adventure game (package says "ages 15 and up"). The game features full sentence parsing, hi-res graphics and text animation. With a Mockingboard speech board the game will talk to you. Musical tunes have been interspersed at key points in the game. Apple. $34.95.





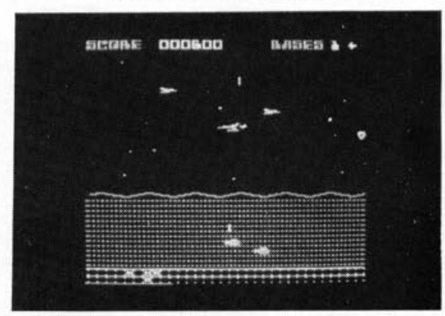
THE COVETED MIRROR



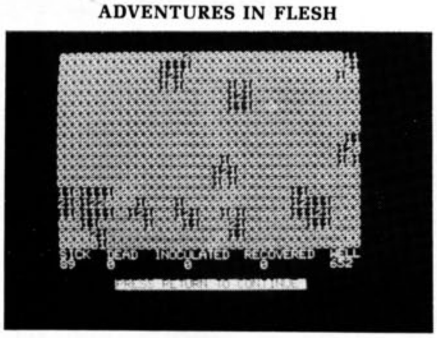
ADVENTURES IN FLESH



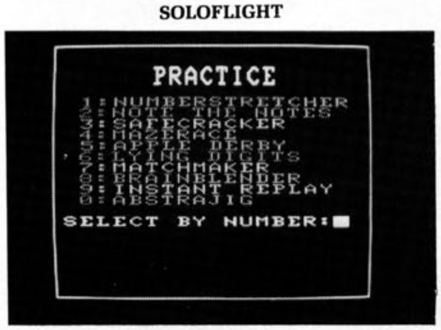
SOLOFLIGHT



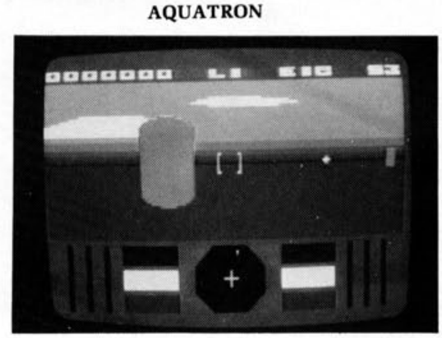
AQUATRON



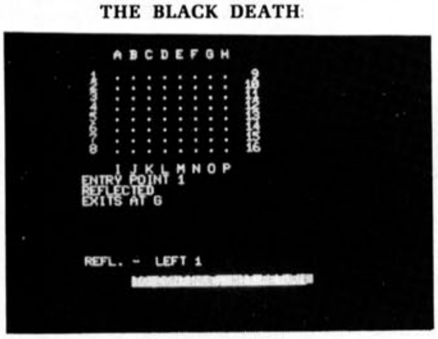
THE BLACK DEATH



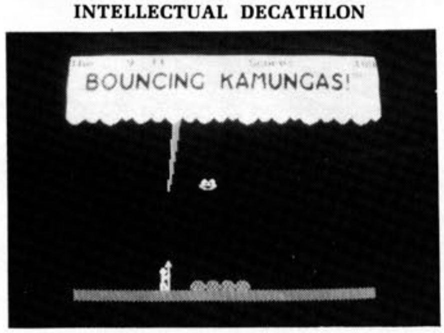
INTELLECTUAL DECATHLON



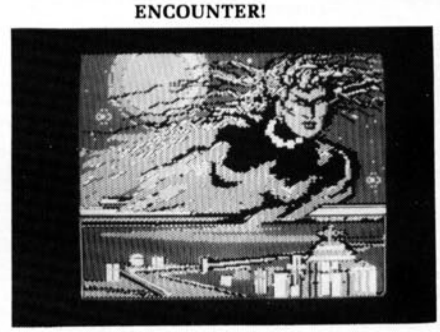
ENCOUNTER!



PLATO'S CAVE



BOUNCING KAMUNGAS



CRYPT OF MEDEA

Do you have what it takes

to survive the Devil's Dungeon? Or escape the uncharted jungle? Can you race in the Grand Prix? Or catch the daring jewel thief? How about trying the Rubik's Cube? Chills and challenges await you in Hayden's world of thrilling adventures, exciting chases, fast-paced action battles, and brain-teasing puzzles.

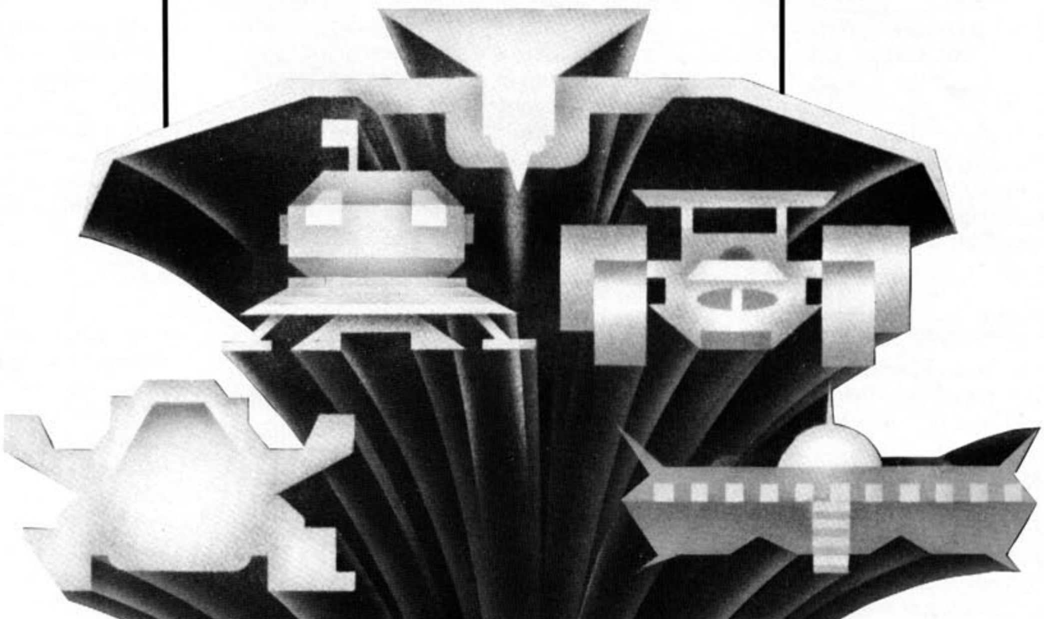
Become part of our exciting world today!

Stimulating Simulations (Engel) **Devil's Dungeon:** Mind-boggling treasures await you—if you can find your way through the lost caverns. Watch out for the bottomless pits and volcanic tremors—and the horrible monsters and demons. **Diamond Thief:** The museum . . . the priceless diamond . . . five suspects . . . clues . . . catch the thief . . . if you can. **Forest Fire:** A lightning bolt has ignited a huge forest fire. You have to save the surrounding forests and communities. Is there enough time? Contains nine other unique simulations such as piloting a space ship, managing a corporation, playing soccer, and more. **Versions Available: Microsoft™, #5170; Atari® #5197; VIC™ #5173. Apple™ #6317; Commodore 64™ #5201, TI-99/4A™ #6404. $7.50 each**

VIC™ Games (Hampshire) Contains 36 exciting game programs for the VIC-20. Arcade style and strategy games provide the thrills—driving skills are tested in the Grand Prix, nerve is tested in a field of landmines, cunning and daring is required to escape the jungle, patience is the key to solving Rubik's Cube. **#1060, $12.95**

Pascal Programs for Games and Graphics (Swan) Here are 22 more programs for video enjoyment—control space traffic at a busy moonport, compete in "light" bike races, and more. Also generates exciting displays of moving light, and the graphics editor allows you to custom-design character sets, save and change pictures up to full screen, and print a hard copy of the finished product on most printers. **#6271, $15.95**

Computer Bridge (Throop) A must for anyone interested in bridge programming. Shows how it can be implemented on a microcomputer. Bridge programs such as Bridge Challenger, Bridge 2.0, Goren Bridgemaster, and Bridge Tutor are evaluated for strengths and weaknesses. Sample hands illustrate bidding and playing options. **#6253, $9.95**



Mail to: Dept. GW14 • Hayden Book Company, Inc.
10 Mulholland Drive • Hasbrouck Heights, NJ 07604

Please send me the book(s) indicated below by code number. If I am not completely satisfied, I may return the book(s) undamaged within 10 days for a complete refund. **I am enclosing $2.00 to cover postage and handling.**

☐ Enclosed is my check or money order. Bill my ☐ Visa ☐ MasterCard

Name ______________________

Address ______________________

City ______________ State ________ Zip ________

Visa/MasterCard # ______________ Exp. ________

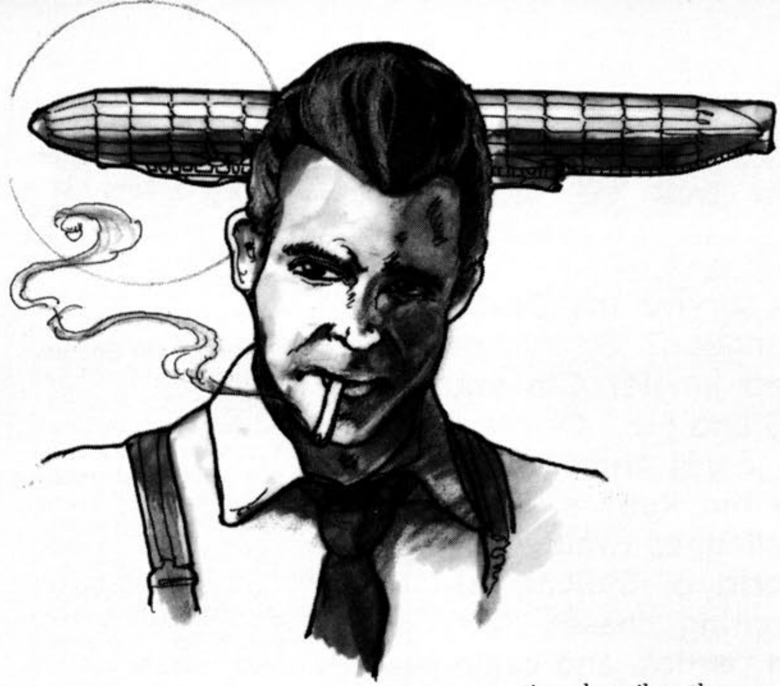
Signature ______________________

Residents of NJ and CA must add sales tax. Prices subject to change.

Hayden

Order by Phone 1-800-631-0856

operator GW14
In NJ (201) 843-0550, Book Sales Dept.



THEY CALL IT MURDER, BABY!

by David & Diana Stone

BASIC INFORMATION

Name:	**Murder on the Zinderneuf**
Type:	**Who done it**
System:	**Atari**
Format:	**Disk**
# Players:	**One**
Authors:	**Robert Leyland, Paul Reiche III, and Jon Freeman**
Price:	**$40**
Publisher:	**Electronic Arts San Mateo, CA**

At 5000 feet and 12 hours out of New York one of the sixteen passengers of the Zinderneuf Luxury Zeppelin is missing. On board a dirigible that can only mean one thing. Murder!.

Your objective in Murder on the Zinderneuf (MURDER), one of the premiere games from Electronic Arts, is to expose the murderer through the character of a "famous" detective. Your methods of operation include interrogating suspects, "shadowing" them, and searching for clues. Unlike Spade, Marlowe, Hammer and other famous detectives of the Zinderneuf era, you don't carry a "rod". This is a discovery, intuition, logic game, not a shoot-em up.

Principle restrictions include confining your movements to the passenger deck and accomplishing your mission before the Zinderneuf lands in 12 hours (about 36 minutes of real time).

The same sixteen characters are in each scenario. Their basic personalities do not change from game to game, but their temperaments do. The documentation describes the personalities of the characters, their kinship, the color of their hair, and whether or not they smoke or wear glasses. These basic characteristics do not change from game to game. The murderer and the victim are always two of the sixteen. Each game presents a different plot, a different victim and murderer, and a different challenge for you, the detective.

You might be wondering if you can 'beat' the game by learning the plots. We doubt it. There are a set number of "confessions" (the exact number we haven't determined), however, we have played the game over 20 times and recall seeing the same confession only twice.

To begin MURDER, you select one of the eight detective to play. Their names suggest that each is based on a famous fictional sleuth. There's Harry Hacksaw, Chief Inspector Emile Klutzeau, Miss Agatha Marbles, Humbolt Hause, Lieutenant Cincinnato, Charity Flaire, Achille Merlot, and Jethro Knight (also known as "the Angel"). Each has his own personality and his own unique crime-solving style. That personality and style affects how you may interrogate suspects and how quickly you find relevant clues.

After you have selected your detective, he appears in the dining room of the Zinderneuf and you are told who is missing (read: murdered). Your case officially begins and the clock begins its twelve hour count down.

The Zinderneuf is colorful — very colorful. Your Atari must have a GTIA chip to play the game. The main screen display, where you do all your sleuthing, is a cut-away, birds-eye view of part of the passenger deck with a four-line text window at the top. Your detective appears as a unique full-figured character that you move about with the joystick. The sixteen passengers appear as person-shaped figures. Each has its own special shape, color, and style of walking. After a few games, you will recognize each instantly as they scurry about.

As you move your detective, the screen smoothly scrolls vertically revealing more of the passenger deck. The very front of the ship is the dining area, the rear is the lounge, and in between are the individual passenger cabins. As you approach the back of ship, the drone of the engine increases slightly in volume. Nice touch.

You move from cabin to cabin interrogating passengers about other passengers. Where the passengers go may be revealing, especially if passengers with no previously known relationship are seen entering one another's cabin. For example, you would not find it unusual to see Felicity Sucrose enter Margaret Vandergilt's room, Felicity is Margaret's daughter. However, finding young Felicity in dark, handsome Aldo Sandini's room may suggest intrigue, and more.

On a few occasions while playing MURDER, we witnessed passengers disappearing when the detective entered the room, and when he stepped out they re-appeared. This minor program bug did not seem to affect the play of the game but it was annoying.

Actual interrogation is begun by touching your detective character to the character you wish to interrogate. The

text window offers you the choices: QUESTION, IGNORE, or ACCUSE THE SUSPECT. Under joystick control you make your selection. Don't be too quick on the button here. A slight movement of the joystick may cause you to accidentally ACCUSE when you only meant to QUESTION.

Then, using the joystick you select HOW you wish to interrogate. Each detective has his own personal approaches to select from. Hard-boiled detective Hacksaw Harry, for example, can be VIOLENT, COOL, FRIENDLY, PUSHY, or STUPID, while the insightful spinster Agatha Marbles can be STERN, SYMPATHETIC, CHATTY, POLITE, HELPLESS.

Selecting the right approach is important. It can make the difference between being told to "get lost" and getting good answers to two or three questions before the suspect decides he has no more to say for now. Getting to know the detectives, and each of the sixteen characters, will enable you to avoid hostile replies.

The game designers encourage you to be creative in imagining how a question might be asked by your detective. For example, if you select POLITE as your approach you may imagine your character saying "Excuse me, but could you tell me what you might know about so-and-so"; or when selecting a "forceful" approach you might imagine your detective growling "Tell me everything you know about so-and-so, and nobody get's hurt!". It's fun, but not required, to read the questions and responses out loud, in character.

You next select which passenger you want to ask about. You will almost always want to begin by asking the suspect what they know about the victim. A text line presents the names of four of the sixteen passengers at a time. Joystick movement allows you to "leaf" through the list to make your selection. This way, the screen doesn't get cluttered up with character's names, and you are spared having to type in their names (and anything else for that matter).

Quizzing passengers reveals their relationships in the current scenario, but they don't directly spell out "who done it". The responses of the passengers are the stuff from which you piece together who is likely involved with the murder, who is a good suspect to question next, and whose room you should search for clues.

Each room contains one clue only, or none at all, with one exception. Somewhere on board, in one of the cabins, is the MOTIVE CLUE. This clue, when found, points a finger hard and straight at one of the suspects. Finding the MOTIVE CLUE is no easy task. The MOTIVE CLUE can be found only if you have met certain criteria: you must have significant information obtained from your interrogations, and you must have already found an ordinary clue in the room where the MOTIVE CLUE can be found.

Essential to every game, and to every mystery for that matter, is the illusion of winnability (or solvability, as the case may be). And, in the cases of defeat the player must perceive that failure was the player's fault (not the game's) but can be corrected by playing better the next time. MURDER lives up to this criterion admirably.

One reason for its playability is that the authors play fairly with the clues. The clues and the responses of the passengers seem logical and ultimately fit together as part of either the main plot or sub-plot. Yes, there are red herrings, these are to be expected (even demanded) in detective fiction.

The game designers incorporated a number of restrictions that facilitate game play and suggest some strategies. One restriction is that after you have either questioned or ignored a suspect, you can't question (or accuse) that suspect again until you have either found a clue or questioned a different suspect.

Another restriction that directly affects play and strategy is that if you accuse an innocent suspect, or if you accuse a suspect with insufficient evidence, that passenger will not speak to you again until the Zeppelin lands. Sufficient evidence means finding the MOTIVE CLUE, or gaining significant evidence from your interrogations.

As soon as you have the MOTIVE CLUE or sufficient evidence, you find the suspect and make your accusation. If you are right, the murderer blurts out his confession. We have guessed the right suspect too early with the result that he would not talk to us anymore. This was somewhat annoying since we were pretty sure that we had gathered enough "significant evidence" to make the accusation. This has made us somewhat shy about making accusations until we have found the motive clue and are positive who the killer is.

If you are on a particularly tough case, the Zinderneuf will land before you can positively identify the murderer. When this occurs you are given the opportunity to make a final accusation before the murderer is revealed by the game.

The computer then rates you as a detective. Factors that affect your rating include: how fast you solved the crime, the amount of evidence you obtained, and the number of false accusations that you made. Ratings range from Feeble Flatfoot to Super Sleuth.

The "human engineering" of MURDER is well above average and should serve as a good example for would-be programmers on how to allow complex input under joystick control. Speaking not as programmers, but as game players whose sofa is six feet from the computer, we're pleased with almost any game that can be totally controlled by the joystick (we resent having to get up even to press START to re-start on some games).

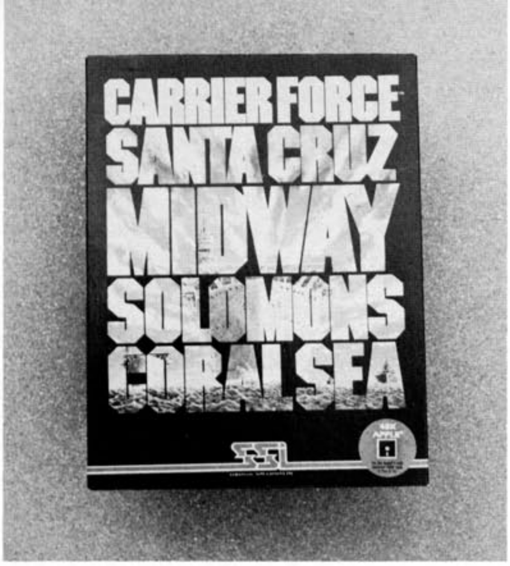
One reason that MURDER is fun to play is that the game designers have done their homework. Each of the sixteen characters is loosely based on historical characters or character-types from the 1930's. For example, Zinderneuf's Sally Rose is similar to real Sally Rand, the fan dancer; Buck Battle, an Olympic star turned movie star, is a cross between Buster Crabbe and Johnny Weismuller.

Many games nowadays have background information and stories about the characters in the games; some quite cleverly written. Zinderneuf, however, is the one of the few games that we have run across that provides character background information that is useful and actually applies to the play of the game.

MURDER is more than just a string of interesting characters carefully interwoven into random plots. Well-researched historical context helps MURDER create a fictional world exciting and authentic enough as to become a reality of its own.

Good detective fiction follows certain conventions. As mentioned above, clues must be handled fairly so that a person of above average intelligence, or one with lots of experience, can solve the crime before the solution is revealed. Other plot devices of detective fiction are firmly established and well-known to all lovers of this kind of writing. MURDER incorporates, either directly or indirectly, some of the standard detective fiction conventions and conveniently ignores others. A few traditional detective plot elements missing from MURDER include the murder weapon, the accomplice, and the corpse. Also, suicide is out of the question. However, none of these "omissions" take away from the play of the game.

In conclusion, MURDER ON THE ZINDERNEUF is in a class by itself. It is like no other game that we've seen on the market: it has animated graphics but it's definitely not an arcade game; you assume a role but its definitely not a role playing game; you piece together clues but it's definitely not an adventure (like Infocom's "Witness" and "Deadline"). It IS a good "who done it" that, if you like mystery fiction, you will enjoy playing again and again.



CARRIER FORCE: Overview & Play Tips

by Floyd Mathews

Carrier Force (CF) is an excellent operational level game of World War II Pacific fleet action. It recreates the four most crucial carrier battles in history: Coral Sea, Midway, Eastern Solomons and Santa Cruz. Fleet operations are simulated in more detail than Gary Grigsby's earlier game, **GUADALCANAL CAMPAIGN** (GC). In GC, each game turn represents 12 hours, and the full game lasts 180 days. But in CF each turn represents one hour, and each scenario lasts only two to three days. Also, you can control more aspects of air operations and combat in CF than in GC.

At the start of a scenario, each ship and plane appears in its actual historical location. However, if you want to add more of the "fog of war", you have the option to randomize the initial set-up in most scenarios.

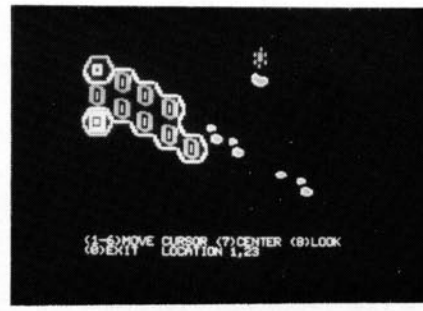
The object is to obtain points by destroying or damaging enemy ships, aircraft and land bases. The Imperial Japanese Navy (IJN) can also get extra points by bombarding USN bases and by landing assault forces.

There are two high resolution scrolling map displays, each about 30 hexes square. Each map occupies about six screens, and a hex is about 50 miles wide. The Midway map centers on Midway, and the map for the other three scenarios centers on Guadalcanal.

The status of your ships and planes, and reports from your pilots, are printed on your screen. Sighting, combat and damage reports may be exaggerated, so you do have to evaluate them with a grain of salt.

All of the historical ships are included, down to the smallest seaplane tender, minesweeper and patrol boat. Each ship is rated for its individual characteristics, such as speed, gunnery, flak, armor protection, and so forth. There are also 20 types of aircraft, with each rated for its speed, endurance, dogfighting ability and bombing accuracy.

NAME:	**Carrier Force**
TYPE:	**Wargame**
SYSTEM:	**Apple, Atari**
#PLAYERS:	**1 or 2**
AUTHOR:	**Gary Grigsby**
PRICE:	**$59.95 $39.95**
PUBLISHER:	**Strategic Simulations Mountain View, CA**



This game does a superb job of portraying the tension and uncertainty of the WWII carrier battles. You know that there are powerful enemy forces lurking out there somewhere, and you know they are hunting for you. You have to find them before they find you. A single successful air strike against your big carriers could decide the whole battle. If a fire breaks out, a ship may suffer additional damage and secondary explosions if the fire spreads. Crippled carriers and airbases will be unable to conduct air operations.

Bad weather can add to your uncertainty. Weather conditions may change, and low cloud cover can seriously limit search capability and air operations — especially in the Coral Sea scenario. My only complaint with this is that weather conditions apply generally to the entire map, and there are no local squalls or fronts.

There is a great deal of randomness built into the combat and search algorithms of this program, so that luck can be a factor in this game. But, your command decisions will have the major effect in deciding the battle. You must plan your operations several hours into the future: How many air search missions should you commit now, and where? Should your battleships stay back to protect your carriers, or should you send them forward to pound land bases and seek surface combat? Should you arm your bombers now with high explosive ordnance for land targets, or with torpedoes and armor piercing bombs for ship targets? Should you strike now against the enemy transports you found, or wait to hopefully sight the enemy carriers? Should you send large fighter escorts to protect your strike missions, or hold most fighters back to defend your carriers? Should you concentrate most of your planes into a single large air strike, or spread them over many smaller missions in consecutive "wave" attacks? Should you advance to finish off the enemy cripples, or run away for safety?

The four scenarios are unevenly balanced, and this is historically accurate. The IJN has the following advantages in all four scenarios: longer range aircraft, superior torpedoes and surface gunnery. In the first two scenarios, the IJN has a great numerical advantage in ships and planes. In all scenarios, the USN has nearby bases for additional air power and emergency landings, and the USN task forces start close together so they can provide mutual support. After the decisive IJN defeat at Midway, the USN has much better odds in terms of carriers, quality and experience of pilots, and flak. In all scenarios, the USN player receives fair-

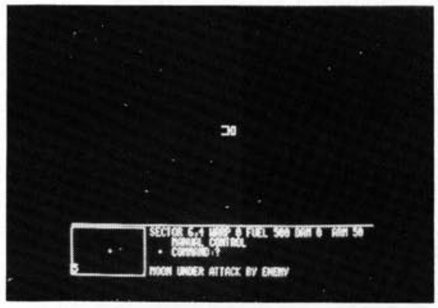
Continued on p. 45

TITAN EMPIRE

James A. McPherson

BASIC INFORMATION

NAME:	**Titan Empire**
TYPE:	**Strategic and Tactical Space War**
SYSTEM:	**Apple II/IIe**
# players:	**One**
AUTHOR:	**Ed Zaron**
PRICE:	**$34.95**
PUBLISHER:	**Muse Software Baltimore, MD**



Titan Empire (TE) is a combined strategic and tactical game. The objective is to prevent the Titans from capturing our solar system. The game not only includes the nine planets, but the major moons as well. And, with only one ship at your disposal, you have a lot of "ground" to cover. This is due to the fact that you must not only attack the enemy planets and moons but you have to defend the planets currently under your control. The Titans can attack at more than one location with multiple ships.

The basic game has Saturn, Mercury, and Jupiter as enemy planets (including their major moons). After you have played the basic game, you are able to randomize the planets initially under enemy control for a fresh game.

The game is played utilizing three displays. They are:

1) *Space Window* — which shows approaching enemies, planets, and moons (you do battle using this display).

2) *Planetary Information* — shows amount of fuel and the number of armies on each planet and moon. It also designates friend or foe.

3) *System Map* — A map of the solar system divided into sectors.

Always present on the bottom portion of the display is the radar screen plus current statistics on the game in progress. The radar screen has nine levels of magnification which are adjusted depending upon your needs. This screen lets you view the surrounding vectors for approaching enemy ships. Not only do you have all of these displays available, but in addition you must control fuel, ship repair, speed, direction, weapons, and shields.

Fuel is consumed in distance traveled as well as shots fired. Fuel can be found on all planets and moons but is limited. The fuel supplies do renew themselves over time but you cannot stay at one planet for ever. If you use up all of the fuel in one area, it is no longer an easy area to defend as you must refuel elsewhere. Further, friendly armies must be on a planet from which you wish to refuel, and your shields must be down while doing so. One final comment on fuel consumption . . . battles with the Titans consumes a lot of fuel.

TE has a realistic orbiting solar system. You must continue to monitor the Map display in order to plan your strategy. It is better to concentrate your efforts on planets and moons which are near your sector and only traveling to other planets when their orbits bring them close. In other words, don't spread yourself too thin.

Each planet starts out with fuel and armies, but the numbers of both will

Continued on p. 44



TWO FROM SIMULATIONS CANADA

by Jay Selover

It's always nice to see a new company appear on the computer gaming horizon. Simulations Canada, a conventional wargame company for some years now, has recently entered the field with two computer wargames, *Grey Seas, Grey Skies (GSGS)* and *Fall Gelb (FG)*. Stephen Newberg, the company's founder, has been its primary creative talent, building it into one of the more respected of the "third world" board wargame companies. With his expansion into computer games, Stephen has gone to outside talent for the first two releases. *GSGS* was designed by W. J. Nichols, and is a tactical simulation of modern naval combat. *FG* was designed by L. Howie, and covers the German invasion of France and the low countries in May, 1940 which led to the Dunkirk evacuation.

You can expect certain things of any Simulations Canada product, including these two games. Both are well researched and both have terse rules and no peripheral documentation. The two games have one other important feature in common. They were designed as *computer assisted wargames*. Each game includes two mapsheets and two sets of unit counters so that two human players can separately and secretly set up and move their units. The programs have no graphics, so that even if you're playing a computer opponent, you need the map and counters to keep track of the positions of your forces.

Past these similarities, the games diverge considerably. They of course simulate very different events in scale and scope. They are also products of two different programmers. *GSGS* is entirely in basic, while most of *FG* is in machine language (surprisingly, the difference in execution time between the two is not that large). Let's take a look at the strengths and weaknesses of each game.

GREY SEAS, GREY SKIES

GSGS simulates hypothetical tactical engagements between various surface and submarine forces in the near future. The game can cope with up to ten units total (up to seven on a side, but if you have seven ships, your opponent can have no more than three). There are seven scenarios included plus a "build your own" feature which allows players to select units from a library of the world's naval forces. The United States, Great Britain, France, and the Soviet Union are well represented with carriers, cruisers, destroyers, frigates, auxiliaries, merchantmen, and both conventional ("hunter/killer") submarines and ballistic missile submarines. Of course, the converted American battleships (now cruise missile platforms) are also included. In addition, a variety of smaller craft (destroyers, frigates, and subs) are included from West Germany, Italy, India, Japan, Argentina, and China.

Each turn represents six minutes of real time, and the player is put in the position of the captain of each of his ships. For each ship or sub, he can perform any, some, or all of the following. 1) Check status of sonar contacts. 2) Check status of radar and visual contacts. 3) Check status of weapons systems (number of each type available and for subs, the load in each tube). 4) Check status of fire control and order attacks against any contact. 5) Check the helm for position, course, and speed and make changes to course and speed (subs also have depth capabilities). 6) Finally, helicopter status can be checked and orders to helicopters can be issued.

Movement takes place on an x,y-coordinate grid which is 180,000 yards (about 100 miles) across and which is marked into increments of 10,000 yards. Courses and bearings are always given relative to 0° being due north (straight up the y-axis). You will need to become comfortable with the system, but you won't have to go back to high school trigonometry to play (as was often the case with **TORPEDO FIRE)**. Your fire control computer can be ordered to track any contact and will, within two or three turns, deliver the exact bearing and range to the target. You don't really even need this information, as any weapon to be fired only requires the identification of the target contact. The computer then determines where to aim your missile, torpedo, or gun based on the best available data, and whoosh, off it goes.

The two most important functions that the player controls are search/detection and fire control (when to fire and at what). The game handles fire control very well, giving the player easy access to all required information (weapon types, capabilities, ranges, target locations and whether a target "lock" has been obtained). Spotting the enemy, though, is a required precondition to firing at him, and the search capabilities of your ships will be something of a mystery unless you're currently in the Navy or want to go dredge the data out of a technical book somewhere. What are your chances of spotting an enemy ship by active or passive sonar or radar under average conditions? How much better is the sonar on an "anti-submarine" destroyer than on a "general purpose" destroyer? How does the average sonar

or radar of a British ship compared to that of a Russian ship? The answers to all of these questions are locked away somewhere in the program, but nobody thought the captain needed to know!

While we're talking about hard to access data, let me take one swipe at the game (and *Fall Gelb*, too) — Lack of Documentation. Simulations Canada has always used brief, succinct rules; and with this game, we are told how to play the game and no more. With a board game, you look at the combat results table and know about what chance your shot has of hitting. But, in *GSGS*, you may never know whether a Harpoon missile missed because you were unlucky or because you were crazy to take the shot. Sure, we figure that closer is better, that locking on is better than taking "snap shots", and that active sonar locates more efficiently than passive; but some quantification of the choices is required for us to make intelligent decisions. A "player aid" card would be of invaluable assistance here; even a few guidelines are better than nothing. Also on the card could be relative sonar and radar capabilities and a listing of the weapons carried by various ships (as it is, the only way to access a ship's weapons inventory is to use it in a scenario).

A lot of the information which I would like to see is theoretically obtainable in the program. This is because the game is written in basic, and can all be cataloged and "listed" off the disk. Unfortunately, with "REM" statements, it's going to take a lot of work to find which variables correspond to, for instance, sonar ratings. Another unrealized potential of the game is "design your own" ships. Each class of ship has a text file on the disk which contains the variables unique to that type of ship. If we knew the sequencing of the file, it should be a fairly simple matter to create your own "pet" ship for hypothetical engagements. Basic programming has the problem of slow execution (*GSGS* is quite fast for basic but is still slow compared to most machine language programs), but it has the potential of allowing the tinkerer in all of us to tailor the game to our tastes. It is a very difficult task, though, without some help from the programmer.

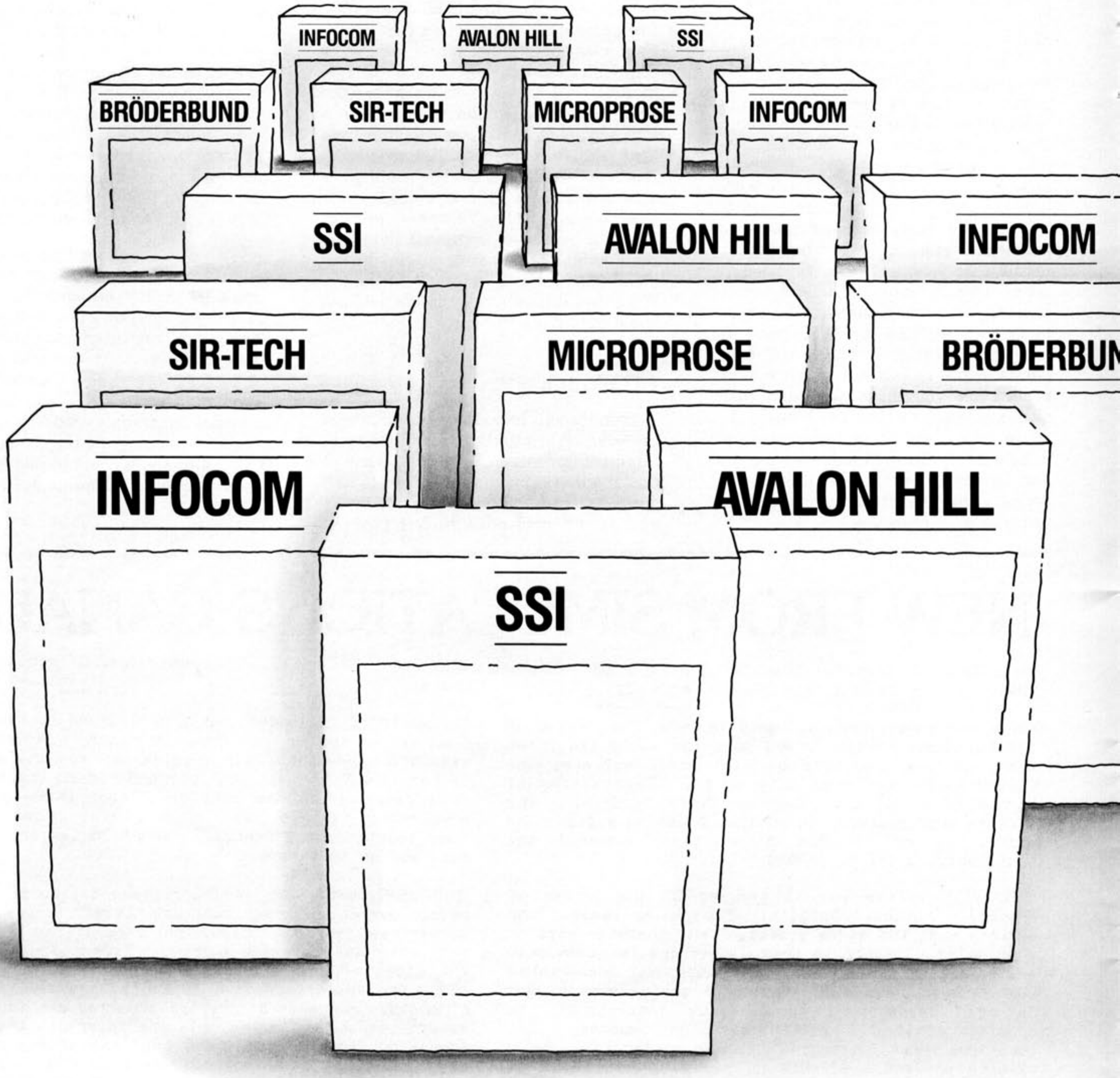
FALL GELB

Even though Europe had been at war for over eight months, the Allies were totally unprepared for the German onslaught of May 10, 1940. The Netherlands fell in four days, Belgium in 18, and France held out (officially) for six weeks. *FG* simulates the German attack on a strategic scale with two day turns and each unit representing a Corps. The program allows two-player and solitaire play (you can play either side against the computer, but who wants to take the Allies and lose every time?). Each turn, you first go through an "intelligence phase" where you can check the status and location of each unit and also check for the identity and location of any enemy forces which your attacks or air reconnaissance might have uncovered. Then, one can issue various levels of movements, attack, defense, withdraw, or reorganize orders to each unit. After your opponent or the computer has done the same for the other side, the computer moves units and executes combat.

With *GSGS*, you can get to the point where you don't need the mapsheet and counters to play; but with *FG*, that map and those counters are indispensable. The map uses area movement, with geographic regions of various shapes and sizes (like on a *Risk* board). You have about 40 German units, 65 Allied units, a map with irregular geography, and no graphics display on the program; you can bet that you'll spend plenty of time consulting your separate set-up!

Continued on p. 45

THE MOST CHALLENGING GAMES AT THE MOST REASONABLE PRICES



TEVEX Tactics: The most challenging games designed for the most popular brands of home computers...at strategically low prices. An unbeatable combination!

TEVEX
INCORPORATED

5891 New Peachtree Road, Suite 116
Doraville, Georgia 30340
404 457-5293

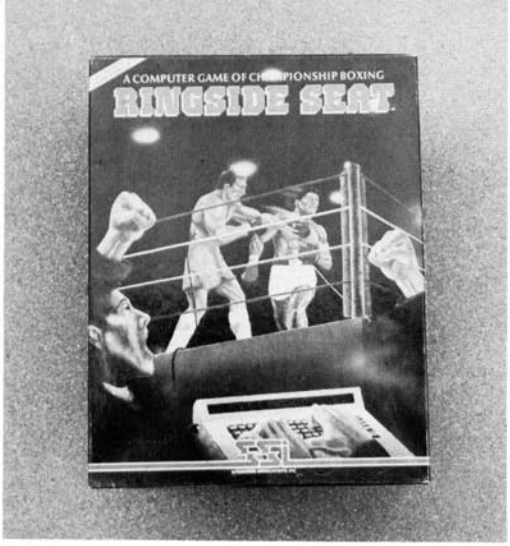
Tevex has carefully selected the best from the biggest names in computer gaming. Challenge us...we'll ship your order ***today*** and you'll get the best for less.

apple computer®
Apple II, IIe and III (with exceptions.)

ATARI®
Atari-all models.

commodore®
Commodore 64 only.





RINGSIDE SEAT:
Review and Rating System

by Dave Long

NAME:	**Ringside Seat**
TYPE:	**Boxing Simulation**
SYSTEM:	**Apple, C-64**
FORMAT:	**Disk**
#PLAYERS:	**1 or 2**
AUTHOR:	**Carl Saracini**
PUBLISHER:	**Strategic Simulations Mountain View, CA**



Ever wonder who was really the greatest boxer of all time? Could "the Rock" take Ali with his dancing, rope-a-dope style and blast him to the canvas? Or would Joe Louis, the Brown Bomber, emerge as the champ, perhaps with a crushing late round victory over the great Jack Dempsey? Well, now you can find out for yourself and, what's more, you can be the guiding force that leads your favorite to victory!

RingSide Seat is SSI's strategic boxing simulation which places you in the shoes of a fighter's manager and lets you coach your fighter from the corner. Between each round, you make the key decisions which can lead your fighter to the "the thrill of victory, or the agony of defeat," stated, of course in the dry nasal tones of one of our most obnoxious sports commentators.

As manager, you tell your fighter at the beginning of each round which strategy you want him to follow. Should he fight *Flat Footed, Cover Up, Charge In, Stick and Move, Stay Away, Go for the KO,* or *Protect* his *Cuts*? That decision is yours, but be careful. Once you choose a strategy, you must stick with it for the whole three minutes of the round (unless things get so bad that you want to Cover Up).

THE FIGHT

The graphic display of the fight is very well done. You are presented with a balcony view of the ring, and see each blow as it lands. You will see your fighter's head snap back when he's hit with a jab, see him double over when smashed in the stomach, and even watch him fall to the canvas on knockdowns while his opponent raises his hands in victory.

To the left and right of the ring are displayed the status and condition of the two fighters. As the fight progresses, fighters suffer cuts, gashes, swollen eyes, split lips and bloody noses. Some rounds will see a fighter suffer excessive punishment, and perhaps in a subsequent round your man will fight with his arms lowered from taking too many blows to the body. All cuts are shown in red border if still bleeding, or in inverse print if the cut become extra deep or is aggravated by repeated blows to the same spot.

The feature which, in my opinion, really makes the game is the blow-by-blow and color commentary which is given at the bottom of the screen. Each action taken is noted, with an explanation of its effectiveness. "Ali swings wildly and misses, Ali moves around, Ali connects with a right cross to the head," etc. When a blow is particularly effective, you may be told that "Marciano is dazed by the punch, Marciano is staggered by the punch," or even "Marciano falls to the canvas and the referee begins the count."

The color commentary (and here again one can almost hear the nasal tones of our "favorite" ringside commentator) is really descriptive. Not wishing to spoil your initial response to many of his comments, I'll merely mention that the color truly gives the finishing touch of realism, whether its "Ali appears to be in control" or "Marciano can't get it all together this round," his many astute observations often have both managers snorting in derision or roaring with approval as their pugilists continue to contest the outcome of the matter at hand.

FIGHTER DATA

As in nearly all SSI games, you are given the opportunity to create and battle with your own fighters, Rocky Balboa, Apollo Creed, and the vicious Clubber Lang were the first three fighters that I "made up," and it was

Continued on p. 47

COMPUTER PALACE

MasterCard · VISA · American Express

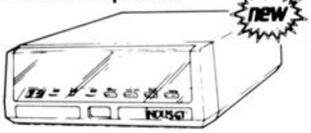
Over 1000 Items For Your Atari!

ATARI®

We Know ATARI Computers... Call Us For The Latest Info: (503)683-5361

A World-Class Drive For Your ATARI Computer...

new



INDUS GT

- Quiet and Reliable
- Faster I/O than Atari 1050
- True Double Density
- Includes DOS & Free Software for Word Processing, Data-base & Spreadsheet!!!

$419.00 Plus Freight

Protect Your Valuable Equipment With



DUST COVERS

These durable and attractive covers are custom fitted for:

- Atari 400,800,600XL,800XL AND 1200XL Computers
- Atari 410,810,1010 and 1050 Drives and Recorders.
- Epson MX-80 & FX-80 Printers.
- Gemini 10 & Prowriter 8510 Ptrs
- Percom and RANA Drives

$8.95 Each

Please specify model

Special! 2 for $16.95

FREE Catalog



With any order, or send $1 (refundable with purchase). Send us your name & address for FREE QUARTERLY FLYERS with SPECIALS!

"If you don't have our catalog... you're **Missing Out!**"

Contains over 2000 items for your Atari!

Use Your Credit Cards!

We honor VISA, American Express, & MasterCard.

24 & 48 Hour Shipping Is Available... CALL!

ATR-8000 EXPANSION UNIT



- Run CP/M on your Atari
- Parallel printer port
- Printer spooler
- Serial port
- DD controller

Plus Freight

16K model	299.00
64K model (for CP/M)	499.00
2-DDDS Drives (for 64K model)	695.00

new

AXIOM Interface For Parallel Printers

Works with all Atari Computers, including the new XL series! Can be "Daisy-Chained" anywhere in the system. **$99.00**

Figure Your Own Income Taxes With The Amazing...

TAX ADVANTAGE

From Continental Software 48K Disk

- Takes you line by line through Form 1040 as well as Schedules A,B,C,D,E,G,SE,W AND 4562
- Simple, plain English prompts... You just fill in the numbers!
- Even does Income Averaging
- Compatible with files from "The Home Accountant" for a year-around financial planner.

Only $59.95

---

new



This is one of the **Most Versatile** data-base programs available for business or home use!

Super Mailer PLUS

From ROYAL SOFTWARE
48K Disk only

Much More Than A Mailing List!

- Maintain Your Book Library
- Organize Your Record Collection
- Keep Track Of Your Recipies
- Are You A Stamp Collector?

Let Super Mailer Plus keep track of all these and more!

Dealer Inquiries Invited

Our Price **$49.95**

You can accomplish this **and more** because of the **"User Re-defineable fields"**! The program has many other features: Multiple Search—Special Code Field—Single/or/Double Density Operation—Create Sub-files—Auto-delete—Print Labels 1/2/or 3 up—Print File Copy—Merge/Search/Sort—Built-in Official Post Office State Abbreviations—More

---



$54.00

The Monkey Wrench II

A cartridge for the right-hand Slot of your Atari 800!

This is a BASIC & Machine-language **Programmers Aid** for the 800. It plugs into the right slot, and works with Atari BASIC to add 16 new direct-mode commands(Incl. Auto line numbering, Delete lines, Renumber BASIC, Hex-Dec conv., Find string, Move lines, Exchange string, Disk directory from BASIC, Mem. test, More.) Also includes a monitor with 15 commands to interact with the 6502. This has been proven to be a very helpful tool when writing your own programs!

ALL-TIME FAVORITES

Star Raiders(C)	38.20
Eastern Front (D,T)	29.95
Pacman (C)	39.50
Temple of Apshi (D,T)	35.10
Zork I, II, or III (D)	each 35.10
Defender (C)	39.50
Missle Command (C)	29.70
Shamus (D,T)	31.50
Ghost Hunter (D)	34.95
Ghost Hunter (T)	29.95

TOP-TEN PROGRAMS

Pole Position (C)	44.90
Donkey Kong (C)	44.90
Blue Max (D,T)	31.50
Baseball (D,T)	28.90
Pinball Construction Set (48K, Disk)	35.10
Football (D,T)	28.90
Monkey Wrench II (not a game) (C)	54.00
Ultima II (D)	52.50
Archon (D)	35.10
Ultima III/Exodus (D)	49.50

FLIGHT SIMULATOR II

From Sublogic 48K Disk

$44.90



Colorful, scrolling graphics—Full instrumentation

The program includes a World War I "Air-Ace" battle game, too!

ULTIMA III/Exodus



$49.50

From Origin Systems

Here is the latest in the famous series of fantasy/role-playing adventure games.

SUPER SPECIALS—UP TO 60% OFF!

Meteor Storm

24K Disk Only From Royal Software



Reg. $29.95 Special **$9.95**



Reg. $39.95

Special **$17.95**

K-Razy Cartridge *Shootout*

From CBS

HARDWARE

Astra 1620 Disk Drive	539.00
Koala Pad Graphics Tablet	87.00
Rana 1000 Disk Drive	349.00
Trak A2-D2 Disk Drive	398.00
Super-5 Printer	329.00
Panasonic Monitor (Grn/Scrn, w/sound)	199.00

SOFTWARE

Archon (D,T)	35.10
Joust (C)	44.90
Robotron (C)	39.50
Microsoft Basic II (D)	79.10
Diskey Utility (D)	44.90
Quasimodo (D,T)	31.50
Murder on the Zinderneuf (D)	35.10
Blue Max (D,T)	31.50
Odessa Chess (D)	59.50
Pharoah's Pyramid (D)	31.50
Rally Speedway (C)	44.90
Ultima II (D)	52.50
B/Graph (D)	89.90
The Home Accountant (D)	69.50

COMPUTER PALACE

MasterCard · VISA · American Express

OPEN Monday - Saturday, 9 to 6

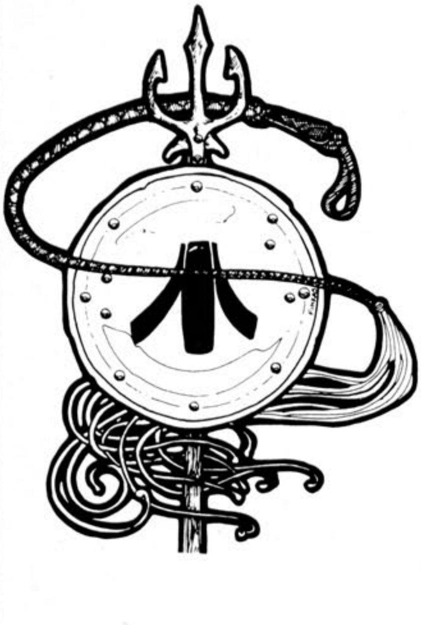
2160 W. 11th Avenue Eugene, Oregon 97402

USE YOU CREDIT CARD & CALL TOLL-FREE 1-800-452-8013

You Never Pay Extra To Use You Credit Card At Computer Palace!

Our Toll-Free Number Is For ORDERS ONLY, PLEASE! Call 503-683-5361 for info.

Shipping Note: UPS & Parcel Post, Add $2.90—UPS Blue Label (Air), Add $4.75—Hardware and Paper Supplies are Extra—Call for exact cost on your order. **24 & 48 hour shipping available—Call 503-683-5361 for information.**



ATARI ARENA

Allen Doum

That this column has existed for a year is something of a shock to me. There are a number of topics and games which have piled up that I wanted to cover. But, the topics already covered haven't been standing still. So this time I will look both forward and back, in an attempt to find out just where Atari gaming is now.

SILLY THEMES. Arcade game players are often being required to do silly things to earn their points; such as in the various running-jumping-climbing games and the delightful **Drelbs.** But, better graphics techniques are allowing for more realistic action as well. **Blue Max** is one example, and **Pole Position** could almost be called a sports simulation. Action games will probably continue down both paths. And why not? There are plenty of exciting game ideas in both directions.

CARTRIDGES. As reported in CGW 3.2, more companies (and more types of software) are going to be on cartridges. Although Broderbund and Synapse have not converted many games, there has been a strong showing from Parker Brothers, Sega and CBS in recent months with versions of arcade games like **Q★bert, Star Trek and Gorf.**

In addition to games, software such as Word Processors and programming languages have been put on cartridges, both by Atari and by third-party publishers like OSS. Also many of the new cartridges are using bank switching to increase the amount of memory (and power) available in the cartridge.

In addition, I am glad to report that EPYX's latest cartridges, like **Pit Stop,** are much better than the initial releases I reviewed 10 months ago.

THE STATE OF THE ART. Of the games reviewed in CGW 3.3, **Astro Chase** has been re-released in cartridge by Parker Brothers, and there is now a two player version of **Wayout** from Sirius, called **Capture the Flag.**

But the "state of the art" has moved on. For "Best Graphics" I would now have to name **Murder on the Zinderneuf,** even though it isn't an action game. **(Blue Max** would get the nod there.)

That *tank* game I mentioned hasn't shown up yet, but the flight simulators from Microprose are getting close. **Hellcat Ace** pits a single player against fast moving enemies, but with only a horizon line for terrain. **Solo Flight** shows both color terrain and an instrument panel in a peacetime setting. (I haven't seen **Mig Alley Ace,** a two player, split screen version of **Hellcat Ace** yet.) Now, if they can just get all of that working together.

Speaking of that *tank* game, we will soon be turret deep in versions of **Battlezone.** All it will take is some realistic terrain and some good tank specifications. Is that too much to ask?

Survivor is still holding on in the multi-player co-operative category, but there is more competition (if you will) now.

CONVERSIONS

There seems to be some improvement here, particularly in sound, but not much otherwise. (See next subject.)

ELECTRONIC ARTS

Almost all of this new company's releases since last reported have been conversions of games already on the Atari to other computers. Two, **Hard Hat Mack** and **Axis Assassin** have come the other way — from Apple versions — and both look it. **Hard Hat Mack** is another running-jumping-climbing game, and **Axis Assassin** is a game that looks like **Tempest** (see next subject), but has unique play elements.

ARCADE PLAY-ALIKES

The **Donkey Kong** cycle is still in full swing, with elements of **Jungle Lord** about to be added. Hopefully the **Q-berts** are finished, but weren't there a lot of them in such a short time? The **Battlezone** is just ahead, but when do we reach the **Frontline?** I'm waiting to see if anyone has the gall to try **Star Wars.** Oh, and by the way, do you have your laserdisc interface yet?

(Authorized versions from Atari, Parker Brothers, Datasoft, and Sega for these and others are available or sure to be forthcoming.)

There are two types of games that, because they are well covered in the rest of the magazine, are usually not discussed in this column: wargames and adventures. The "state of the art" in both fields has been pushed forward this year.

In wargames **Eastern Front,** besides being converted to cartridge, also got a scenario generator and an "expansion kit" of scenarios (both from APX, as is **Saratoga,** a similar game on the American Revolution campaign). **Excalibur,** Chris Crawford's latest from APX, will be the subject of a feature review next issue. SSI, Avalon Hill, Broderbund, and Microprose all released new wargames for Atari computers, as well.

In adventures, the translations have proceeded apace, however the hybridizing of adventure and arcade games is on the increase. Action games like **Zeppelin** and adventures like **Gateway to Apshi** are causing the distinctions to be harder to make.

In fact, distinctions between strategy and arcade games are getting harder as well. Real-time wargames such as **Combat Leader** and **Legionaire** aren't fast enough to be called action games yet, but next years crop will include some that will be hard to categorize.

Of course the big change for Atari Computer owners next year are the hardware and firmware changes in the XL series of computers. So far, the only impact has been that the new machines will not boot all of the old software, due to disk copy protection programs that used "illegal" operating system addresses. This has affected people who have bought the new machines, although revisions in the new operating system have reportedly reduced the problem. The software publishers are changing the protection programs as well, so this problem should soon fade away. Since there are a great number of the older machines on the market, software publishers will probably be reluctant to use any of the new features for some time. New controllers, such as touch tablets and light pens, could have great utility in games, and could still be used on the old machines. The proliferation of modems, including the new "direct-connect" modems, will increase the demand for tele-gaming on the Atari as well.

The major loss, however, is the third and fourth controller ports. Multi-player games, unless they can use paddles, will have a much reduced market.

In all, it has been an interesting year, and the year ahead shows great promise as well. All of the new hardware, whatever else it signifies, at least demonstrates a willingness by Atari to stay in the home computer marketplace. And who knows, maybe Alan Alda *can* sell computers better than Bill Cosby did.



GOLF: *Two Simulations*

by Roy Wagner and Russell Sipe

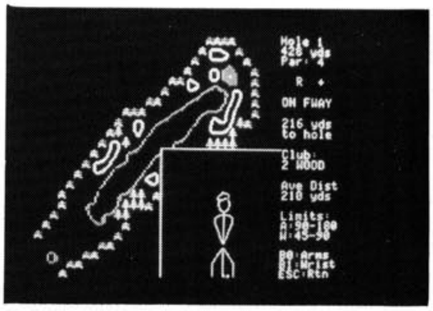
As happened three years ago, Avalon Hill and Strategic Simulations have, within a couple weeks of each other, released sports games on the same subject. In summer 1981 both released statistical baseball games (AH'S MAJOR LEAGUE BASEBALL and SSI's COMPUTER BASEBALL). According to our readers, SSI's game proved to be the more popular of the two. But this time around we predict that the Avalon Hill game will be the more popular.

Both games are very well done and although on the surface appear to be similar, have some basic differences. The Avalon Hill game stresses YOU playing the round of golf using your own skills (which you must develop with the paddles). At the same time you must plan your shots and execute them according to your ability and the demands of the situation. The SSI game emphasizes the latter approach. Ability is determined by the statistics you have loaded for yourself prior to the round. The mechanics of hitting the ball are abstracted.

Both games are reviewed here.

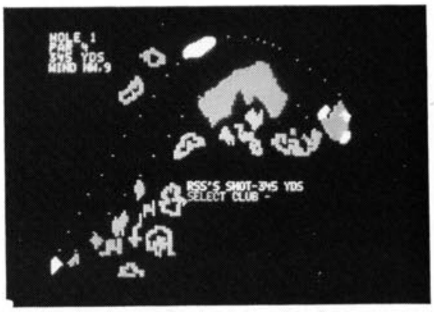
BASIC INFORMATION

NAME:	**Tournament Golf**
TYPE:	**Simulation**
SYSTEM:	**Apple II**
FORMAT:	**Disk**
#PLAYERS:	**1 TO 4**
AUTHOR:	**KEN COATES**
PRICE	**$30**
PUBLISHER:	**Avalon Hill Baltimore, MD**



BASIC INFORMATION

NAME:	**Professional Tour Golf**
TYPE:	**Simulation/Strategy**
SYSTEM:	**Commodore 64 / Apple II**
FORMAT:	**Double Sided Disk**
#PLAYERS:	**1 — 4**
AUTHOR:	**Henry Richbourg**
PRICE:	**$39.95**
PUBLISHER:	**Strategic Simulations Inc. Mountain View, CA**



TOURNAMENT GOLF

Russell Sipe

In CGW 3.4 Stanley Greenlaw said that Avant-Garde's HI-RES GOLF 2 (HRG2) was "the best golf simulation on the market." HRG2 now has a couple of challengers for that distinction. While SSI'S PROFESSIONAL TOUR GOLF (PTG) can make a strong claim for best simulation of professional golf (using pro golfers stats); as a golf simulation in which you must use your own skills, TOURNAMENT GOLF, by Avalon Hill issues a stronger challenge to HRG2 as the best golf simulation on the market.

What set HRG2 apart from the other games in 3.4 as well as PTG was the arcade sequence in which you must guide the path of the golf swing. TOURNAMENT GOLF (TG) has this same feature and has actually improved it. In TG you use the paddle buttons to control the arms and wrists during the swing. Holding down the 0 button starts the arms into their backswing, releasing the 0 button starts the downswing. The 1 button controls the wrists in a similar manner. If you have played Microsoft's OLYMPIC DECATHLON you will remember the shotput event; the mechanics are the same in TG. In OD you used the paddles to control the biceps and triceps, timing was the key. In TG you must, with the same care to timing, co-ordinate the arms and wrists to produce the perfect swing. Break your wrists to late and you will get a slice, too early and you will hook the ball.

What makes TG superior to HRG2 in mechanics is that in TG you actually have a golfer profile which realistically portrays the mechanics of the swing. In TG you see the shoulder pivot, the wrists

break, etc. In HRG2 you see the path of the swing but not in relationship to a figure that displays shoulder and wrist actions.

Just like HRG2 there is a version which is designed for less experienced players. With the "Amateur" version, the swing is much easier to co-ordinate. In time you will want to graduate to the "Pro" version which requires practice to develop a good swing.

Speaking of practice, TG has a practice driving range and putting green where you can hone your skills. As you might have guessed, the graphic display in TG can actually help you to improve your game by seeing what is happening mechanically when a slice or hook occurs. TG has pleasing hi-res graphics. Each hole is contained on a single screen. The greens have contours and a break indicator indicates the size break for which one must compensate. Fairway features are typical: tee, fairway, #1 rough, #2 rough, trees, traps, water hazards, and greens. A wind indicator give the direction and strength of wind.

A hi-res scorecard is displayed between each hole and can be printed out at the end of the round (not in hi-res). The low score for the course is updated to disk (if needed).

There are two shortcomings of the game which make it less than the perfect computer golf game. First, you cannot hit over trees. As any golfer will tell you, hitting over trees is something we all do from time to time. But, fortunately, the way the courses are laid out, this is not a common problem. When you DO find yourself stymied behind trees, you can try to hook/slice the ball around the obstacle or simply play around it.

The other shortcoming is that, unlike HRG2, there is not a tournament security program that permits tournaments by mail. In HRG2 a special tournament sequence can be used to play rounds which produce a scorecard with scores and a special code that the tournament director can use to validate the score. This avoids such possibilities as a contestant starting a round over if he is not doing well. Actually, it is not accurate to call the lack of this feature a "shortcoming". It's presence in HRG2 is unique among computer games.

To illustrate the realism of TOURNAMENT GOLF let me close with this true story. In high school I was a four year varsity letterman in golf. In my senior year I was MVP, played in some tourneys, etc. But the occasional fantasy I entertained about going professional was dampened by the fact that under pressure I tended to tense up (which is death to a golf swing). I realized that if I was making a putt for $20,000 I couldn't hack it. That coupled with the fact that a nine handicapper was not professional material meant that I would have to find another way to make a living. Eventually I started CGW and put myself in a non-stress job, publisher and editor (haha, excuse me while I reach for another Rolaids).

In our first tight match of TG I had a 3 stroke lead after the first nine against my assistant editor. I lost the lead early on the back nine and trailed by a shot when we finished the 15th. I held my own on 16 and 17. Coming to 18 I was still one stroke down. It was a par 5. I was lying 6 feet from the hole after 3 shots. Kirk had some problems in the trees and it looked like I was going to be able to pull the match out of the proverbial hat. I had a nice straight six footer to win the match (I had been sinking these all day). I choked. Three footer left, slight break to the left. I overcompensated, three putt, lost match. Aaarrrggghhh!!! The only feature the game lacked was the ability to throw my clubs in the lake.

The game comes with two 18 hole courses and is set up to use courses from separate disks. I look forward to the possibility of future courses for TG from Avalon Hill.

TG is highly recommended for any golfer with a Apple II.

PROFESSIONAL TOUR GOLF

Roy Wagner

It's snowing outside today, but I'm still going to play a round of golf. It will be a foursome with myself, my regular partner and, just for fun, I'll invite Arnold Palmer and Ben Crenshaw along. We will all meet at Pebble Beach just as soon as I can get my disk loaded. Time passes . . . . . Two hours later we are all at the clubhouse discussing our game. On the par 72 course, I shot an 85, my partner an 82, Arnold a 70 and Ben a 73. I stayed in my warm home and played a very exciting and realistic game of golf while my neighbor shoveled snow.

Professional Tour Golf (PTG) is an accurate simulation of golf which makes use of performance statistics to cause a golfer to perform in the game in a manner consistant with how he does in real life.

The game comes with the statistics for 20 professional golfers, past and present, with plans to make additional players available. The program gives you the ability to enter the characteristics (statistics) for 40 players of your own choosing (yourself, friends, other pro golfers, etc.). This data is stored on your own disk and can be updated to fine tune your players after a few rounds of play or if their actual golf skills should change.

The general golfing characteristics for each player are collected using the *Utility Program*. Data such as how far a player can hit a driver or pitching wedge are combined with data such as players handicap to determine performance ratings. These values are then used to generate the detailed player characteristics that are stored to disk under a player number (41 — 80) and player name (up to 15 characters).

The game comes with two courses. For the first course the designer collected some of the toughest and most exciting holes from different courses around the world. Unfortunately, we are not told their real locations. The second course is PEBBLE BEACH, one of the best known courses in the world. Other disks are under development for such courses as MERION, OAKMONT (site of the 1983 U.S. Open), and AUGUSTA NATIONAL (annual site of the Masters). Both courses are very well presented by high resolution bit mapped displays. In order to fill the screen with a graphic representation of each hole, a scaling factor is given on the score card that is displayed before each hole. The teeing area, fairway markers, trees, water, sandtraps, and putting green are all shown in different colors, creating a display which is very impressive.

The order of play is determined according to the rules of golf. When it is your turn to play, your initials will be shown with the direct distance to the hole. In the case of a sandtrap, an asterisk (*) appears after the distance (two asterisks are shown to signify a bad lie in a sandtrap). You then select the club you want to use. For shots out of or through the trees, you may additionally specify that it will be a *recovery shot* and you want to keep it low. The computer will subject the recovery shot to greater distance and direction variation. The HELP option will display a screen showing you the statistical average for each club (a real help in learning your "players" capability).

Next you enter the direction of your shot, entering a value from 0 to 360. The computer will display a flashing dot at the point where you have aimed the club. The computer helps by suggesting a value-to-be used in parentheses which is not always the best choice, so you can hit any key except RETURN to enter a new value. Entering RETURN will ask you for a *shot deviation*. This option lets you attempt to curve the ball left or right in order to compensate for a dogleg or to hit around trees. You have five deviation options: hook, draw, none, fade, or slice. All deviations are relative to the flight of the ball. There are no guarantees that the shot will perform as you have requested. Performance is based on many factors, the most significant being your capabilities. (How many of us

Continued on p. 47



NATO COMMANDER: Review

by Mark Bausman

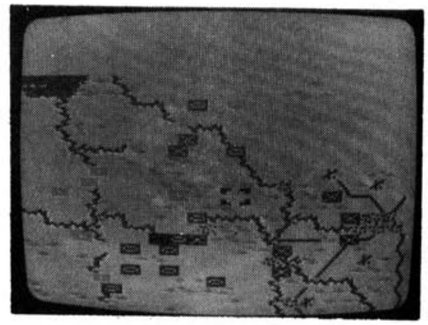
NATO Commander, from Microprose, is a strategic simulation of an attack by Warsaw Pad (WP) forces on NATO forces in Western Europe. The human player controls the NATO forces while the computer controls the WP forces. The game provides five scenarios with four levels of difficulty for each scenario. You may also choose to play division or brigade size units. Units consist of armor, infantry, cavalry, militia, airborne (WP only), helicopters, air wings, and tactical nuclear weapons. Terrain includes clear, forest, rivers, mountains, and roads. There is also a special terrain feature called surface to air missile sites. SAM Sites do not move nor do they have combat capability but they help suppress WP air power and their loss accumulates victory points for the WP. The game is won through the accumulation of victory points. These points may be gained or lost from combat and political activities.

The game has no turns, phases, movement allowance, or combat points. You and the computer move simultaneously in a real-time mode. A clock in the upper right portion of the screen displays the time and at the end of each day a news bulletin appears which gives the status of the attack. All game actions occur in conjunction with the clock. Units are simply ordered to move from one place to another and how soon they get to the new place is determined by their type and the terrain they must cross. For combat, a ground unit is ordered to attack an adjacent enemy unit and the combat continues until one unit is destroyed or retreats.

A unit's combat capability is determined by the number of tanks and men in it, its morale, and its mode. When a unit is moving it is in tactical mode and is unable to attack. When it first stops it is in hastily prepared defense mode and as it sits longer it moves to prepared defense mode. Helicopters may attack anywhere on the board and they continue to attack until exhausted or ordered to stop the attack. When combat is ordered you may choose from two levels of attack intensity or you may choose chemical attack. Nuclear weapons strikes must first be authorized and then targeted. Once targeted the strike preparations will commence and shortly there after the target will be hit.

BASIC INFORMATION

NAME:	**Nato Commander**
SYSTEM:	**Atari 400/800/1200 48K, Joystick Optional**
FORMAT:	**Disk**
#PLAYERS:	**One**
AUTHOR:	**Sid Meier**
PRICE:	**$34.95**
PUBLISHER:	**Microprose Software Perkton, MD 301-667-1151**



Air Wings are not ordered to attack directly but are sent on missions. Missions include *air-superiority* which surppresses WP air power, *ground support* which increases the combat capability of units, or *reconnaissance* which reveals the location of WP units. The WP has airborne units but not helicopters.

Units may be ordered with joystick or keyboard (with keyboard play being easier). You use a cursor as the unit pointer and simply move the cursor to the unit with which you wish to work. There is a "freeze" key which sets as a great equalizer. Its use allows you time to assess the situation and enter the desired orders. When you have entered all the orders you want simply resume the game with the same key. This key is especially valuable when playing the *Attack on Germany* scenario as the map board covers several Atari screens in width and length, and the cursor scrolling is just not fast enough to keep up with the computer.

STRATEGY

The various scenarios offer a variety of strategic situations. The first is a learning scenario and is mainly a controlled withdrawl of the NATO forces to more defensible positions. This scenario uses only the top part of the map board and so is easy to control. In this scenario, as with the others which I have played, the NATO Forces starts out with three isolated infantry divisions under attack in the East by superior WP forces and the rest of your forces scattered around the map board. The isolated units are in prepared defense mode and will take quite few of the WP forces with them before they surrender if you should choose not to try to relieve them. I usually write them off. When the scenario starts, immediately press the "F" key and take a look at the situation. New players should use the space bar and determine where the strong and weak units are. Since strength does not vary from game to game, experienced players will know which units are strong and which are weak.

Most WP forces will be concentrated in the central part of the display. This would seem the perfect time to target a nuclear strike. Unfortunately (or "fortunately"; depending upon your viewpoint. — Ed.) the high command (ATARI) will not authorize a nuclear strike until it is a last resort. Your strongest divisions are also located in the central part, but a little further south and are scattered.

Your overall strategy should be one of defense. Being in a forest or behind a river provides extra defense but the best situation is to force WP forces to move and attack NATO forces which have been in position long enough to be in prepared defense mode. The defense should be selected so that NATO units may support each other.

The computer will select a strategy

Continued on p. 45



ZORK I

As told by Scorpia

Well, the holidays are over, and the long, cold nights of winter are here. But don't let that get you down! Just settle in close to the fireplace, mug in hand, and we'll get started with that classic adventure, Zork I.

A white house in the woods. How simply this epic adventure game begins! However, as you might expect, there is more here than meets the eye, much more. So, wander around for a bit, mapping carefully as you go, and see what you can discover in the great outdoors.

When you've finished with that, it's time to make your way behind the house and (grunt) into the kitchen. Upstairs is the (dark) attic, and off to the west is the Living Room. Useful items can be found in all three rooms, although you won't be needing all the items at the same time.

Now, a quick tour shows you there aren't any other places in the house, and you've already been around outside, so where can you go from here? Well, examine everything in the house carefully, and don't be afraid to look under things or move them around. You should be able to find your way underground soon enough. I do suggest, though, that you bring along the sword and lamp, because you will certainly be needing them...and quite soon!

By the way, from time to time a certain light-fingered gentleman (?) will wander by, anxious to relieve you of any goodies you may be carrying. He is the infamous Thief, and it's best to try and get out of the room as soon as he appears, or anything worthwhile in your inventory will disappear. However, at this time, it's wise not to try and kill him; you do need him for something, but more about that later.

Once you've made it down below, you will find you have only two directions in which to move; one brings you to the Gallery, and a treasure, the other brings you to the Troll Room, and possible death. Now you know why you need the sword! Only one will survive the encounter; I certainly hope it's you! But if not, there's always the restore game option (whew!).

Once the troll has been dispatched, the rest of the Great Underground Empire is open to you. Some parts will be less pleasant than others. For example, to the west of the Troll Room is (sigh) a maze. You might want to leave this part of the game for later, because the mapping is tricky, and the adventure has only just begun (there's a lot to see out there!). But in any case, the best thing to do here is bring plenty of items to drop so you can map it out. Take your time, because this is a mean one. Remember also that there are more than four directions!!

Your travels are just beginning. There is a dam to visit, which will give you a rather spectacular view, and provide an interesting little diversion: getting the sluice gates open. Best to check out that Maintenance Room; too bad you can't read EBCDIC! Ah well, just be careful, and remember that what you do here could have an effect somewhere else ("Bubble, bubble . . .").

Once the gates are open, you might want to explore around the Reservoir, as well as around the base of the dam. That pile of plastic just might be important, what could it be? Hmmm, there's the Frigid River next door, perhaps there's a connection?

However, before you go floating along the river, there's something else to be done first. You'll need to visit the Temple and its environs, and more than once, too (this game is famous for having to run back and forth between locations many times!). Finding the place shouldn't be too hard; just look aROUND for it...and you might want to bring a rope for this one.

After you find the Temple, and the gold coffin in the Egyptian Room, it may dawn on you that you can't get back out the way you came in. And there doesn't seem to be any other way out, except a small hole in the floor of the Altar Room. But that sure is a small hole; you'll never get through it carrying that coffin! What can you do? Well, try doing the most likely thing you can think of doing in an Altar Room, and see what happens. Oh yes, you might want to look inside the coffin when you get a chance.

What you find inside should remind you of something you have already seen (or, something that you should have seen if you bothered to explore the outdoors at the beginning of the game!). Experiment a little bit...this is a golden opportunity you shouldn't pass up! Then tuck everything away in the trophy case.

At this point, you can either go back to the Frigid River, or you can go back to Hades first; it doesn't make much difference. Supposing that you opt for Hades, you should come across some interesting items, such as a bell, a book, and a candle, along the way (you probably saw these things when you were here before; now is the time to pick them up).

This may sound familiar to some of you; indeed, these three items are standard in the use of exorcism (by the way, I hope you have something with which to light the candles; I *don't* recommend the torch!).

The sequence of actions is very important here; if you don't do things in the right order, you won't be able to get rid of the evil spirits and enter Hades. So, think about this: First, you have to get their attention. Once you've done that, the rest should come naturally. Read any Good Books lately?

Once you've banished the evil spirits and obtained the treasure in Hades, you should be able to find your way out and back to the house without too much of a problem (as long as you've been mapping along the way!). Now you might be in the mood for a little jaunt on the river.

When you do finally make your way down the River, be alert! For one thing, you certainly don't want to find yourself going over the Aragain Falls (definitely a one-way trip!), and for another, you don't want to miss anything important! However, you will soon realize that, once again, you can't return the way you came (mean game, this Zork!).

But don't despair! You should be on dry land, very near to the Aragain Falls. (In fact, this should be the same area as the Sandy Beach). If you make your way to the Falls, you might just find a way of getting home again.

Ok, after you get the goodies stored away, it's time for more explorations. Investigating the area north of the Reservoir will bring you, eventually, to the coal mine. It can be a fun place.......IF you're careful!

First, there's a pesky little bat, which will try to pick you up and deposit you

randomly somewhere within the depths of the mine. If you keep in mind that this is a VAMPIRE bat, you might be able to figure out what you need to get past him safely (spicy stuff!).

Beyond him is the Shaft Room, which has perplexed many an adventurer! What could that basket possibly be used for? Well, it's at the end of a long chain, perhaps it's meant to be lowered. Have you looked inside it? Empty? Might that be a clue?

Still, there is much to see here yet, so let's leave this mysterious basket for now while you make your way to the coal mine proper. This is, alas, another maze. It's much smaller than the one in the cellar, but still quite confusing. As with the other one, it's best to drop various items so you can map it out.

Eventually, you will make your way to the Ladder Top, which leads, naturally enough, to the Ladder Bottom, and from there to the Timber Room. In here is a VERY narrow passage. You'll have to drop just about everything you're carrying to get through that crack. Too bad you can't bring any light with you.

But there is a way to get light into this room, of course. Just think about how far DOWN you are, and what might be UP above you! Once you've figured out how to get a light source in here, you can investigate the Machine Room, and its strange-looking machine.

Taking a peek inside it, you find some glassy sludge. Or, something that looks like glass. Since this is a treasure hunt, what might look like glass, but isn't? Right! Now you know what to put in the machine..all you have to do is figure out how to turn it on.

Hmmmm, that sure is a pretty small switch. Tiny, in fact. About the size of, no, not a nail, but something pretty similar. It would be a dam shame if you didn't have the right thing with you here!

Once you're finished with the Machine Room, and have your latest treasures stowed away (or possibly stolen!), you might want to pay a visit to everyone's favorite place, the Loud Roomroom. Actually, while this room gives many people a hard time, it's really quite easy to get the bar: just consider the room's outstanding quality, and make an order of it.

About now, you've collected most of the goodies in the game, but there are still a few things left to do, most of them connected with the maze in the cellar. Careful mapping, as mentioned earlier, will help you through it. When you get to the Cyclops Room, keep in mind your Greek mythology. You won't have to be violent; it's simply a matter of saying the right thing.

The thief, however, is another matter entirely! There's no way around it, you'll have to kill him (by this time, of course, you're probably happy to do it!). Be warned he won't be easy to put away, so it's best to save the game before making the attempt. One thing to be aware of is that, before he's killed, he has to do something for you. A thief has both the tools and the expertise to open all sorts of items. Keep that in mind!

You're just about finished now; most likely only one treasure remains to be found and placed in the trophy case. What could it be? Well, when you find out what's inside the egg, that might give you a hint. If you still can't figure it out, try doing something with it. Tweet, tweet!

Finally, all the items will be in the case, and you will receive a message; that message will lead you to the barrow that is the gateway to Zork II.

Whew, finished at last! Quite a set of adventures, those Zorks! But you've seen it through, and it's time for something completely (well, almost!) different: next time, we'll leave the dank and dusty dungeons for the dark and deep reaches of outer space in Starcross. See you then!



REACH OUT AND CONQUER SOMEONE.

Introducing FORTRESS.™ A classic strategy game of power and conquest. On disk for the APPLE® & ATARI.®

Like such classics as chess and *go*, FORTRESS ($34.95) is beautifully simple: Occupy a place, fortify it, lay siege to your opponent's fortresses, and dominate the countryside. The rules are few; the possible moves, nearly limitless. FORTRESS is very fast – each game lasts less than ten minutes.

This two-player game also contains a great solitaire scenario. Five different computer opponents are provided, each endowed with a unique style of play. For example, there is the ruthlessly aggressive Genghis Khan and Lord Maginot, the master of defense.

The crowning glory is that the computer opponents not only play, they *learn and improve* as they play you. The better you get, the better they get! Which brings forth a most fascinating event:



ANNOUNCING THE $1,000 SSI FORTRESS TOURNAMENT

Since you teach the computer opponents every time you play them, they are really an extension of yourself. SSI proudly announces a very different kind of strategy game tournament: computer versus computer! Send us the disk of your best trained computer player and we'll match it against other entries. The winner (the human, not his disk!) of this battle of electronic wits will win $1,000! Complete details in each FORTRESS box.

So get a head start on the competition and head on down to your nearest computer/software or game dealer today. FORTRESS, a game destined to be a classic, awaits you.

On disk for the Apple® II with Applesoft ROM Card, Apple II Plus, IIe, and III.

Also on disk for the 40K Atari® 400/800/1200 with BASIC Cartridge.

RapidFire
GAMES FROM SSI

Apple is a registered trademark of Apple Computer, Inc.

Atari is a registered trademark of Atari, Inc.



FINALLY, A VIDEO PINBALL GAME FOR THE PINBALL FAN!

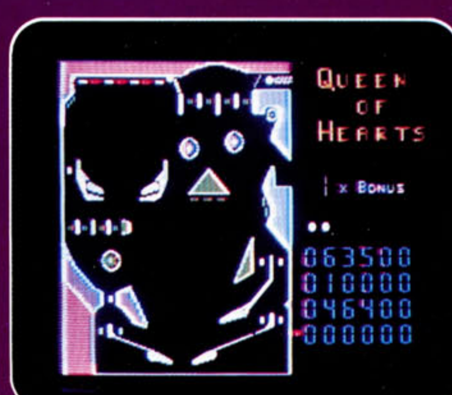
On disk for the APPLE® & ATARI.®

QUEEN OF HEARTS™ ($34.95) is dedicated to all you pinball players out there. Just look at what it offers:

- Two playfields with five flippers.
- A realistic "TILT" feature.
- Four sequences: Hit the right targets in the right order and you'll get extra balls and rack up a huge score.
- Sound effects to complete the illusion of a real pinball game.

So if you're itching for a pinball game, don't think pinball arcade. Think computer/software or game store instead, 'cause that's where you can get hold of QUEEN OF HEARTS.

See above for Apple® specifications. On disk for the 48K Atari® 400/800/1200 with 2 joysticks.



If there are no convenient stores near you, VISA & Mastercard holders can order direct by calling **800-227-1617, ext. 335 (toll free).** In California, call 800-772-3545, ext. 335. To order by mail, send your check to: Strategic Simulations Inc, 883 Stierlin Road, Bldg. A-200, Mountain View, CA 94043. (California residents, add 6.5% sales tax.) Please specify computer format.

WRITE FOR A FREE COLOR CATALOG OF ALL OUR GAMES.

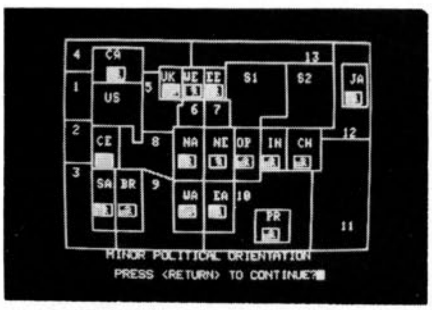


GEOPOLITIQUE 1990: Review

by Bob Proctor

BASIC INFORMATION

NAME:	**GEOPOLITIQUE 1990**
TYPE:	**Strategy**
SYSTEM:	**Apple II/ or Apple IIe**
FORMAT:	**Disk**
#PLAYERS:	**1**
AUTHOR:	**Bruce Ketchledge**
PRICE:	**$39.95**
PUBLISHER:	**Strategic Simulations Inc. Mountain View, CA**



David: *"Joshua, let's play a game of Global Thermonuclear War!"*

Joshua: *"Well, David, I'm pretty bored with that now that I've played out all the variations. How about a game of Global Political Confrontation instead?"*

David: *"That sounds boring."*

Joshua: *"Oh, but it's not! Even at MY processing speed, I've only been able to analyze a small number of variations."*

David: *"Yeah, but I'd rather play a wargame."*

Joshua: *"War, of course, is always the last resort of diplomats and statesmen."*

Very few games, either on a table top or computer, have presented war in a broad context. Stop and think, how many games can you name where warfare isn't mandatory? There's **CIVILIZATION,** winner of a Charlie at Origins '83, and the older **EMPIRES OF THE MIDDLE AGES** from SPI. Both of these multi-player games can be won without resorting to military conquest, though you may be forced to defend your borders against less scrupulous neighbors. Science fiction fans could say the same thing about **STELLAR CONQUEST** and later games of galactic exploration and colonization.

Now there is such a game for computers: **GEOPOLITIQUE 1990** from SSI for the Apple II (a version for the Commodore 64 is planned but not yet available). Rather than being set in the past or distant future,GEOPOLITIQUE is modern. It has seven "starting positions"; one of which portrays the world political and military situation as it is now (1984), while the rest show various situations that might occur by the year 1990. In all cases, you play the United States against the computer's USSR. No two-player games, solitaire only.

The country's condition is measured on three scales: *Gross National Product* (GNP), *Prestige*, and *National Security.* In each game, you must pick two of the three as your objectives. The computer sets goals based upon the beginning situation. If you achieve these goals, the game is over immediately and you win. The Soviets have a similar set of goals, but you're never sure how close they are to making them. Different combinations of goals can produce drastically different games from the same starting position, so there is enough variety here to keep a dedicated player interested for a long time.

A typical game lasts from 1½ to 2½ hours. This does not have to be at one sitting since there is a game-save option at the end of each turn (year). To keep games from running over-long, each scenario has a time limit of 8 to 12 turns. If neither superpower has fulfilled their objectives at the end of this period, then the one which is closer to doing so (on a percentage basis) is declared the winner. Those of us who occasionally feel "we wuz robbed" will be glad to know that it is not necessary to stop play at this point; you can continue (indefinitely) if you want to.

A CUBIST VIEW OF THE WORLD

Golly, I said, can a game that runs in 48K really capture the interplay of a hundred governments, of thousands of cultures? The answer is "Nope, not even close". What it *can* do is portray two superpowers and 16 minor countries in a simple economic framework. The superpowers vie to form Economic, Political, and Military Treaties with the minors. A fourth type of agreement is the Neutrality Treaty, which cancels all previous agreements a minor has formed and is used to undermine the enemy's power base.

Only six of the minors have names of countries: Canada, Brazil, Japan, China, India and the United Kingdom. The rest are abstractions of the attitudes and resources of a region. So, there are Western Europe and Eastern Europe, Central and South America, North, West and East Africa, and Opecia (the oil-rich middle east). One consequence of this is the absence of all the familiar names: Korea and Viet Nam, Cuba and Grenada, Sinai and Lebanon. The hot-spots of the last 38 years are submerged in the identities of a dominant neighbor (as Korea would be part of Japan) or lumped together. Presumably, Egypt, Israel, and Lebanon are all part of the region called Near East, but can you imagine stranger bedfellows? (Not any more than Korea as part of Japan-Ed.) Still, you negotiate

with these regions as though they had a single government and, in keeping with that spirit, I'll refer to them as "countries".

Negotiations are influenced by many factors. Each country is rated for its willingness to negotiate and its leanings toward one or the other superpower. The relative level of prestige of the superpowers is a major factor in a coutry's desire to form treaties with them. As the world tension level increases, countries tend to become more willing to take sides. The presence of nearby military units can help (if they're yours) or hinder (if they're not). Finally, the manner in which you conduct the negotiations is important. There are five degrees of pressure. You can start with a mild *Request*, escalate to a *Demand*, even go all the way and threaten military action. You shouldn't be too demanding with allies, nor should you threaten with the military unless you are willing and able to conduct a limited, local war if the threat proves insufficient. The loss of prestige that follows a hollow threat is crippling.

The world map is drawn in high-res, but is as abstract as the geography. The countries are mostly, well, squares! This

Continued on p. 46



The Learning Game

Bob Proctor

I am often asked by people who do not (yet) have their own computer just how educational they really are. These are adults, mind you, and they freely grant that educational software may be a great boon to children in their formative years, but they aren't so sure if there's anything for them. They say they've given up on touch typing and speed reading; they don't need to bone up for the SAT. What ARE you interested in, I ask, Science, History, Medicine, Politics? Yeah, they say, something like that.

My answer to them (and to any of you with the same size feet) is "Absolutely yes with one very important condition". You've got to want to learn. If you're willing to put out the effort (learning is somewhat more strenuous than swallowing applesauce) then there are plenty of programs that will give you the opportunity. I prefer games, naturally.

Take SSI's new GEOPOLITIQUE 1990 as an example. Let's examine the question of what one could really expect to learn from this game, either in a group or alone. I won't describe this rather complex game here, read the review elsewhere in this issue.

At the very end of the rulebook is a suggestion for using GEOPOLITIQUE in a classroom environment. The idea, briefly, is to use five people as the US government instead of one. Each player would have certain responsibilities in the game. One player would be the Secretary of State and would allocate Political Action Points and make decisions regarding negotiations with other countries. The Secretary of Defense would control the mobilization and deployment of all military units. The Secretary of the Treasury would make decisions about economic production and would (presumably) favor economic growth over the needs of the State and Defense Departments. A National Security Advisor would analyze possible Soviet moves and be responsible for the security of the country against attack, but have no real decision power in game terms.

The fifth player would be, of course, the President. The ultimate responsibility for all decisions rests with this player; that is, the President can override any of the other four. The President's responsibility is to meld the recommendations of the Cabinet into a cohesive policy that will benefit the country.

As you can see, the thrust of this exercise is to generate conflicts of interest and to attempt to resolve them. The insights gained would probably not have to do with international politics so much as with national politics. This would be a superb way to learn about the executive branch of the US government.

If more students were available (and most classes are bigger than five) you could improve on it by letting the rest of the class represent the American people. They could vote on important issues (like a Presidential election every four years), represent Congress and demand the resignation of unpopular Cabinet members. Since a large group cannot all crowd around a monitor anyway, three or four could be selected to represent The Media. They would be the pipeline through which news of world events is filtered to the general population. It would be exciting if Freedom of the Press could be made an issue, which would require that someone become the Supreme Court so that all three branches of government would have a function. Unfortunately, there cannot be a Soviet player to take advantage of any security leaks so it is hard to imagine a viable need for secrecy.

If it seems that GEOPOLITIQUE plays only an indirect role in this hypothetical learning exercise, you're close to right. This is all that any simulation game does. It models the rest of the world so that our decisions seem to produce some sort of result. In this case, that result may be a higher Gross National Product or a treaty with Brazil. In other games, the result may be a successful battle or an increase in market share. In ALL cases, the learning occurs because of the decision-making process that goes on between your ears. Adding more people adds the aspect of group dynamics without taking anything away.

★ ★ ★ ★ ★ ★ ★

If any reader knows of a case where a strategy game has been used in a class or group, I'd like to hear about it. Please write to me in care of Computer Gaming World.

Whipping Your M.U.L.E. Into Shape

by Carl M. Evans

If you haven't gone out and bought M.U.L.E. yet, don't waste any time. Stop reading this and run on out and buy your own personal copy before they are all sucked up. If you already have your own copy, then you know what I am talking about. But have you been able to beat the computer players consistently in the tournament mode when you are playing the Human character? If not, then read on and I will disclose some playing strategies to you that will come in very useful.

The first thing you have to realize is that there is only one product worth producing in any quantity . . . CRYSTITE. All of the other products in the game are subject to the usual laws of supply and demand. In other words, as the supply increases, the price of the product decreases. Crystite, on the other hand, sells for some random price between 48 and 148 dollars per unit regardless of the supply.

I am amused by the antics of other human players who try to corner the market on smithore, food, or energy. I've seen smithorne sell for over 300 dollars per unit and the player who drove the price up gloated at his success until the last couple of turns in the game when I came from out of what appeared to be nowhere to pass him up and beat him by several thousand dollars. The secret is simple. Produce only as much food and energy as you can use and dedicate everything else to the production of crystite.

The logic of this seems to be clear cut, but the implementation of this strategy needs a little bit of thought. Let's go through a game and highlight some of the important milestones. First, on turn one of the game try to get one of the river plots. They can not be beat for producing food. You will find that the production of a river plot will keep you supplied with as much food as you will need through most of the game. You may want to temporarily set up one other food plot early in the game with the intention of converting it to crystite at the earliest opportunity. If you do set up a second food plot hoard all of its output and convert the plot to crystite around turn five or six.

The second thing is to try to buy up the entire supply of energy at the store. If you can do this, it will give you some additional leeway in the first four turns and hinder the development of your opponents. Whether you can suck up all of the store's energy or not, you should establish two energy plots by no later than the end of the fourth turn. An ancilliary note to the energy policy is to NEVER sell energy. The first reason is that you may very well suffer three turns later during an energy shortage and wish you had never sold any. The second reason is more immediate. You might get a hundred or so dollars for a unit of energy from an energy-starved player, but he will get at least two to eight hundred dollars worth of production from it depending upon where he is on the learning curve.

The pirate will usually show up for the first time around the fourth or fifth turn of the game. You should, therefore develop two energy plots and two food plots during the first four turns. Starting on the fifth turn, set up any new plots for crystite production and ignore the possible appearance of the pirate.

Note: be very wary of getting stuck with a piece of high priced land in an auction during the early turns of the game or you will find yourself in a real cashflow squeeze. There will always be time to buy up additional land in the second half of the game. The additional production capability of the extra plot of land does you little good if you later have to let land go undeveloped due to lack of money.

Now that you have your energy and food supply established, you can concentrate on finding those high yield crystite deposits. If you are playing against three computer opponents, this is where you beat the socks off of them. You can find crystite in one of three ways. The first way is to stumble across it on a plot of land that you already own. You can try this by simply putting a crystite M.U.L.E. on that plot of land and hope for a bonanza.

The second way is the traditional way where you go out and get a sample from a plot of land and take it to the assay office in town. This is what you will have to do if you are playing against human players. If you are playing against computer players, however, life is made easy for you. If a human player locates a high grade crystite deposit, he will assuredly grab that plot of land and put it into crystite production at the earliest opportunity. Not so, the computer player. Those poor computer players will assay one or two plots every turn without taking advantage of any assay information they get. This makes the poor computer a very easy opponent to beat. While he goes off into whatever electronic dream that androids have (electronic sheep of course — Ed.), you walk away with the game by grabbing all three of the high yield crystite deposits.

Now lets talk about some very important things to keep in mind. The first of these things is attrition. You will find that 50 per cent of any excess food and 25 per cent of any excess energy will be lost each turn to something called 'spoilage'. Ignore the loss of any energy units, but try to minimize the losses in food by keeping no more than two or three over your needs. Your actual production on the next turn will depend upon whether or not you have an adequate supply of energy, but a lack of food simply reduces the amount of time you have to make any changes to your production plots.

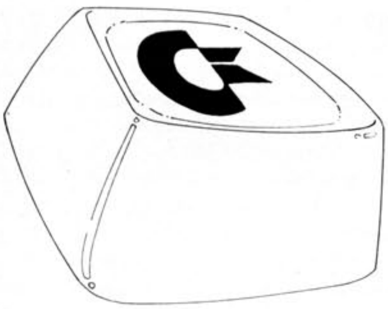
You can hold up to fifty units of smithore and crystite without penalty (if you ignore any losses to the pirate). Any units over fifty are simply lost at the end of the round. This brings us to the last two things you should do in your pursuit of a clear win. Always sell any smithore that you have. This tends to keep the price down for the guy who is heavily into smithore production and consequently keeps your cost for new M.U.L.E.s down.

Never let yourself run short of energy! Being short by one energy unit can cost you as much as $1000 on a single turn. Also note that the 'need level' that the game shows you during the auction phase is based upon your current production level. It does not take into account any new plot developing you may do on the next turn.

The next thing is something you should start doing around turn 10, if you haven't already done so. You should get rid of all of your food producers and move your energy M.U.L.E.s into the river bed. By that time you should have a large stockpile of energy and precious little undeveloped plots. As soon as all of your non-river plots are producing crystite you have no real need for food anymore since you don't have any plot changes to make. By turn 12 you should end up with at least nine crystite plots and a single energy plot on the river bed.

The last thing is to hold onto your crystite until you can get a price over 110 dollars per unit. You have to take the usual precautions about the maximum holdings of fifty rule. Also, if a pirate hasn't turned up by turn 9 you might be in for a large hole in your pocket on turn 10.

These strategies are always good against the computer players, but you will find them only adequate against experienced human opponents who are using the same tactics. When you are playing in that kind of game, try to maximize your use of the economies of scale and grab as many good crystite plots as you can. Happy gaming! ■



THE COMMODORE KEY

Roy Wagner

The holiday season has come and gone now. Some of you got a new Commodore 64 (C64) and want to buy games (or other software) for it. But what you can buy depends on what input peripheral (s) (Datasette or disk drive) you have. These determine the medium (cartridge, cassette tape, or disk) on which what you buy will be stored.

If you only have a C64, you can only buy software on cartridges. These push into the slot in back of the C64, on the side nearest where the joystick's plug in. Make sure your machine is always turned off when you insert or remove these cartridges, or you may severely damage the cartridge and/or your C64.

The number of games available on cartridge is limited at this time, but much more is becoming available. Manufacturers prefer cartridges because they are easiest to use (especially for children) and offer good software protection. They are ready to run as soon as you turn on the machine. Cartridge programs are written in machine language and so they run faster than BASIC.

The maximum size of a cartridge program is 16K. You cannot write information to cartridges, so you are NOT able to save scores or a partially played game when using them.

Some game companies that offer several game cartridges are: SPINNAKER (mostly children's learning games, though more games are being released for older children and adults), HES (arcade like games and Turtle graphics), and EPYX (arcade like games). I recommend *Story Machine, Facemaker, Gridrunner, Shamus, Jumpman Junior,* and *Pitstop*.

If you also received a Commodore Datasette (a special cassette recorder designed to work reliably with the C64), then you can buy games on cassette tape. Surprisingly, the number of things on tape is somewhat limited. This is due to the l-o-n-g time that it takes to load a tape program. And, if the cassette head is dirty or out of alignment, there is always the horrible message that comes at the end of a long wait — ? LOAD ERROR — which means "try again". The really good games on tape are large programs and prone to the above problems. Most people buy a Datasette because it is a "cheap" input/output peripheral. Aside from small programs and small data files, the Datasette can be frustrating to use. Cassette tapes can, however, be used to save game data and scores, and are somewhat easy for children to use.

Some companies that offer good cassette tape programs are: ACCESS SOFTWARE (shoot-em games), AVALON HILL (variety of simulation games), SYNAPSE (arcade like games). I recommend *Neutral Zone, Beach Head, Telengard, Andromeda Conquest,* and *Fort Apocalypse*.

Finally, if you own a disk drive, you have available to you all software that is produced for the C64. A company that produces software for the C64 will always make it available on disk and may then make it available on tape. Commodore originally forecast that 70% of the people who bought C64, would buy a disk drive. The actual percentage has turned out to be 90%. Don't feel bad if you do not yet have a disk, you will soon. It is somewhat expensive (though cheaper than one for any other brand of computer), and well worth saving all your Pennies to buy (maybe you can get an advance on your next birthday?).

A disk drive gives game designers the opportunity to produce very elaborate games that load new screens, programs, or data as needed. Using one is a fast way to load and save information when compared to tape. It is, though, difficult to use disk drives with children younger than eight, due to the care that must be taken not to damage the disk. I always create a *backup* of the original disk for children to use. Otherwise, someone older always has to be called in to load "their" programs. Disks are cheap to use and I have never heard of anyone yet who has reported a disk which has failed because it has worn out or been overused.

Some companies that offer a very good selection of quality games on disk are: INFOCOM (excellent text adventure games), EPYX (role playing and arcade like games), ELECTRONIC ARTS (excellent variety of games), STRATEGIC SIMULATIONS (conflict and sport simulations), and SIERRA ON LINE (arcade like games). I recommend the *Zork* series, *Suspended, Temple of Apshai, Jumpman, Pinball Construction Set, Archeon, Combat Leader, Professional Tour Golf,* and *Frogger*.

An item that all computer gamers will need is a joystick. There are several styles and brands available. Generally the quality, reliability, and how long it will continue to work is directly related to it's price. The more you pay, the better the joystick. Always try to test it before you buy. What one person likes, may not be for you (especially if you are left handed). You should be able to easily hold the joystick in your hand and the firebutton should be well placed for quick firing at attacking antagonists.

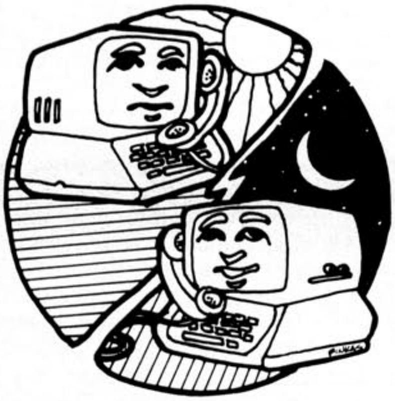
ENDING COMMENTS

Keep waiting for a good Chess program. *Cyber Chess* is available, but is only a tutorial of already played games. It has, however, good educational value. *Sargon II* is out, but I recommend you wait for *Sargon III*. *Chess 7.0* from Odesta should be available soon (this program is on the same level as Sargon III). Odesta also has a chess teaching program called *Chess!*, based on Chess 7.0.

From EPYX, *Jumpman Junior* is available on cartridge. It has only 12 screens and is slightly more limiting than the disk version of *Jumpman* (senior, I guess), which has thirty screens. If you have a disk drive, buy the disk version. Another game from EPYX on cartridge is *Pitstop*. This is a look alike for *Pole Position*. It plays more like bumper cars because hitting other cars or running off the track only causes your tires to wear more quickly (indicated by them changing colors). If they wear out before you can pull into the pits, then you explode away. The action in the pits has excellent graphics and sound effects as cars on the track pass you by. In the pits you get fuel, change tires, and signal the flagman to let you back on the track. While you do all this track time ticks away. This game is at its best with more than one racer (up to four can play).

For the next issue I hope to review games that are originals and only available for the C64. One of these is *Power Star*, a new arcade like space game. If you have any comments or questions concerning games for the C64, please contact me care of this magazine.

TELE-GAMING



Patricia Fitzgibbons

Late one wintry evening, a winding path leads you through the darkness to an enormous, and somewhat mysterious, stone mansion. For a moment you hesitate in front of the thick double doors. Glancing up, you notice the warm gleam of candlelight flickering through gaps in the heavy curtains that hang behind every window. A chill wind nips your ears and cheeks. Shivering, you take a deep breath and knock several times.

The doors instantly swing wide and a friendly gentleman, with a hint of mischief in his eyes, greets you saying, "The Mansion awaits. Kindly wipe the snow off your shoes before entering!" The doorkeeper then departs, leaving you alone in a lushly decorated foyer. You quickly observe that the oriental rugs covering the slate floor are a bit threadbare. However, two large paintings on the west wall are obviously early Athenian and most valuable.

Hearing the sounds of light-hearted laughter echoing down the corridor, you move forward toward a grand staircase. But, as you do so, you step into a strange, encompassing beam of light and are briefly disoriented. Then, once again, you hear the authoritative voice of the doorkeeper: "Energize! Portal activated! What room are you thinking of?" Since you are visiting the *GameMaster* mansion, you have dozens of rooms to choose from. You pause for a moment, pondering your alternatives.

The "mansion," created and operated by Harlow Stevens, Jr., is a multi-line gaming system located inside of an Alpha Micro computer in Evanston, Illinois. Subscribers to the *GameMaster* system may visit the mansion, via modem, twenty-four hours a day, every day of the year. If you own a computer or terminal and a modem, and purchase a *GameMaster* membership, you will join the hundreds of subscribers who have been guests of the mansion during the past four years. Some of the "regulars" enjoy dropping into the Parlor area for a cozy fireside chat with up to six friends, but most members check into the house for the many online games.

As you roam throughout the six levels of the mansion, you are treated to delightful text descriptions of each room you enter. For example, if you decide to spend a few minutes in the Parlor (which is located just to the left of the foyer entrance), you will be greeted by the following message:

> The minute you walk in you feel at home. Before you lies a myriad of sofas, ottomans and captain's chairs. The west wall is predominated by an oversized fireplace. A gentle fire casts glowing reflections. On the mantle rest the many trophies and awards the GameMaster has acquired through the centuries, for you see, your host is a master of more than just one type of game. The south wall

Continued on p. 44

NEW! For ATARI® 400/800™



SURVIVAL

You are stranded on the alien world of Coryphire. Your only chance of survival is to travel 340 kilometers to an abandoned research station. Unfortunately, the planet has difficult terrain, and is populated by several carnivorous — and hungry — life forms. Your skill and cunning are your main tools for survival. You will salvage as much as you can carry from your starship and begin your trek. With a fair amount of luck, your supplies should last — if you hurry!

SURVIVAL Computer Game recreates the struggle to survive on a hostile alien world. The computer controls the encounters and displays a map showing your location. Once in an encounter, you select how you are going to respond and what weapon you are going to fire. The computer then resolves the combat. The game contains three "Survival" games, and one "Hunt" game which turns the tables on the creatures of Coryphire. Several options which will further increase the number of situations which may be played may be selected by the players prior to the playing of each game.

THE WAR OF THE WORLDS

Determined to escape their dying planet, the Martians have launched an invasion on Earth. You are Mankind's only hope of stopping the invading aliens. Unprepared, and without knowledge of how to stop the awesome aliens, you must marshal the Human forces around London to attack the Martian invaders. Time is not on your side. Soon the Martian invaders will have the toehold they need to subjugate all Mankind — unless your desperate counterattacks succeed.

THE WAR OF THE WORLDS Computer Game recreates the life-and-death struggle between the Martians and the Humans, as depicted by H. G. Wells in his classic novel. You are the commander of the Human forces, and must deal with the computer-controlled Martian invaders. The game has six pre-set levels of play, as well as a game version which allows the player to create his own level by changing key variables prior to play. The screen depicts the area around London of 1896, the landing site of the Martian invasion in H. G. Wells' novel.



TASK FORCE COMPUTER GAMES are strategy games which allow players time to think out their best move. Atari® 400/800™ 16K and Atari® 410™ Cassette Player required for play. Joystick is required for SURVIVAL, and optional for THE WAR OF THE WORLDS. Program versions which allow the games to be replayed without reloading from the cassette tapes are included for players with a 32K machine.

TASK FORCE COMPUTER GAMES — The NEW FORCE in gaming.

THE SILICON CEREBRUM

by Bruce Webster

HEURISTIC SEARCH PART 3: INFORMED BREADTH-FIRST SEARCH

RECAP

For the last few issues, we've been talking about using **heuristic information** to help find solutions to computer problems. Our sample problem is finding a path between two locations on a hex grid. Specifically, we want to trace a path from S to G on the map shown in Figure 1 (the hexes with an X are impassible). Last month, we looked at **breadth-first search** (BFS), a method guaranteed to find the shortest path. Briefly put, BFS involves keeping a list (queue) of hexes to be looked at. We start out with just S in the list. We then grab the first hex in the list. If it's the goal hex (G), we're done. Otherwise, we *expand* the hex, which means that we examine the six hexes adjacent to the one we just grabbed. Each hex that hasn't been previously looked at gets put at the end of the list. We then go back and grab the next hex on the list, and so on, until we either find the goal hex (as mentioned) or we run out of hexes (which means there is no path). Figure 2 shows the trace map for a BFS on Figure 1, and Figure 3 shows the actual path found. (For more details on all this, see the last two issues.)

At the end of last month's column, I revealed that BFS doesn't use any heuristic information, but instead is a *blind search*. In other words, it doesn't know (nor does it need to know) where the goal hex is; it just looks until it runs across it. But since we do know where the goal is, couldn't we use that information to direct our search? Of course we can. This month, we're going to look at an **informed breadth-first search** (IBFS) and see what difference a little intelligence makes.

CHOICE OF HEURISTIC

Since we're trying to find the shortest path from S to G, the obvious choice for our heuristic is distance. In other words, we need a function that will return the distance (in hexes) from any hex on the map to any other hex on the map. Let's suppose that we're representing our map as a two-dimensional array. Any hex then has the coordinates (x,y), where x is the row (top to bottom) and y is the column (left to right). Given two hexes with coordinates (x1,y1) and (x2,y2), then the following function will return the distance between the two hexes:

```
FUNCTION distance (x1,y1,x2,y2
  : integer) : integer;
VAR
  temp1,temp2,dx,dy     : integer;
BEGIN
  dx := abs(x1 - x2) ;
    dy := abs(y1 - y2);
  temp1 := dx;
  IF odd (dx)
    THEN dx := dx + 1;
  temp2 := dy - (dx DIV 2);
  IF temp2 < 0
    THEN temp2 := 0;
  distance := temp1 + temp2
END; { of FUNCTION distance }
```

We can now use this function to create a smarter BFS algorithm.

INFORMED BREADTH-FIRST SEARCH

As mentioned last month, this version of the algorithm uses a trace map (TRACE) to trace the path back from the goal hex to the start hex, and a list of hexes called OPEN. For this version, we'll need a change to OPEN. Each hex stored on OPEN will have a cost value (H.COST) stored with it, equal to 1 plus the cost value of the hex which was expanded to produce that hex. In other words, if we pull the hex H off OPEN and expand it to its six adjacent hexes, each of those hexes will have a cost value of H.COST + 1. The cost of the starting hex (S) is 0. The cost of any hex is simply the length of the path from that hex back to S. We'll also need a cost map, CMAP, to remember the cost to a particular hex even after the hex has been pulled off OPEN. CMAP is initially set to all 0's.

Our algorithm is essentially the same as we gave last month, but with two important differences. First, when we pull a hex off OPEN, we don't just take the first hex. Instead, we pick the hex in OPEN that is most likely on the shortest path from S to G. How do we determine that? Well, for a given hex H, the estimated length of the shortest path passing through it is given by:

```
hlen := H.COST + distance
(H.X,H.Y,G.X,G.Y);
```

where the coordinates of H are (H.X,H.Y) and the coordinates of G are (G.X,G.Y). H.COST gives us the actual length of the current path from S to H, while distance returns the shortest possible length of a path from H to G.

The second difference comes in expanding H to its adjacent hexes, ADJ(n), n = 1..6. In the BFS algorithm, we wouldn't put a hex on OPEN if it had already been there (i.e., if TRACE[ADJ(n)] > 0). However, with our IBFS, we have to watch for a particular problem. It's possible to place a hex on OPEN and then run across it again by a shorter path. For example, let's say that some hex, A, was placed on OPEN with a cost of 6 and a trace value of 3 (A.COST = 6, TRACE[A] = 3, CMAP[A] = 6). Later, another hex expands to A from a different direction (5) with a cost of 4. Since TRACE[A] is already nonzero, we would normally throw A away. But we've just found a shorter path to A, so we need to put A back onto OPEN so it can be considered again. Since our new cost is less than CMAP[A], we set A.COST = 4, TRACE[A] = 5, and CMAP[A] = 4. If A has already been pulled off OPEN, we put it back on; otherwise, we just change its COST value and leave it where it is.

I hope that isn't too confusing, but these changes are critical if we want to be sure to find the shortest path each time. Here, then, is the modified algorithm:

(0) Clear TRACE and CMAP (i.e., set all locations to 0). Put the starting hex on OPEN and set its location in TRACE[start] = 7. Set the TRACE locations of any impassable hexes to 7.

(1) If there are no more hexes on OPEN, then no path exists, so quit.

(2) Remove H from OPEN, where H has the lowest estimated path length. If two or more hexes have the lowest value, pick one randomly.
(3) Examine the six hexes adjacent to H, called ADJ(n) for n = 1..6.
(4) If ADJ(n) is the goal hex, then quit.
(5) If TRACE[ADJ(n)] = 0, then set TRACE[ADJ(n)] = n and put ADJ(n) on the OPEN list. Otherwise, if ADJ(n).COST is less than CMAP[ADJ(n)], then set TRACE[ADJ(n)] = n and either put ADJ(n) on the OPEN list (if it is no longer there) or just change its COST value. Otherwise, ignore ADJ(n).
(6) When all 6 hexes have been examined, go to (1).

Figure 4 shows the trace map using this algorithm, and Figure 5 shows what the final path looks like. A better gauge of the added intelligence is in the number of hexes added of OPEN (in step 5) and the number of hexes pulled off OPEN and examined (in step 2). The BFS algorithm put 70 hexes onto OPEN and expanded 55, while the IBFS algorithm put only 49 hexes onto OPEN and expanded just 26 of those. Another indication is the percentage of hexes placed on OPEN that had to be expanded. The BFS expanded 79% of the hexes placed on OPEN, while the IBFS only expanded 53%.

YET ANOTHER ENHANCEMENT

Those of you with sharp minds may have seen a simple change that can improve our algorithm's "intelligence" even more. In step 2, we select randomly among all hexes having the same (minimal) estimated path length. Rather than select randomly, why not choose the hex closest to the goal? (Of course, if there are two or more that qualify, then we select randomly among those.) That way, we are picking from OPEN the hex that has the best chance of being on that minimal path.

Let's call this algorithm MIBFS (for More Informed Breadth First Search). Figure 6

Continued on p. 44

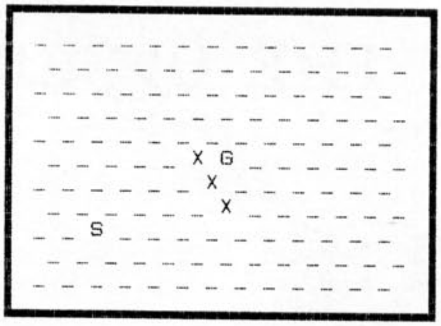


Figure 1

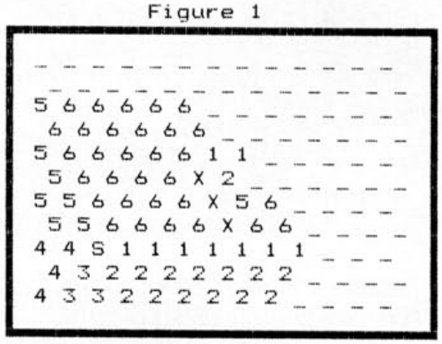


Figure 2

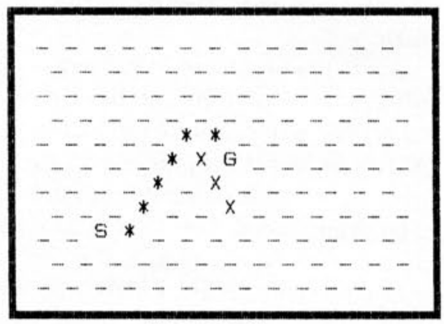


Figure 3

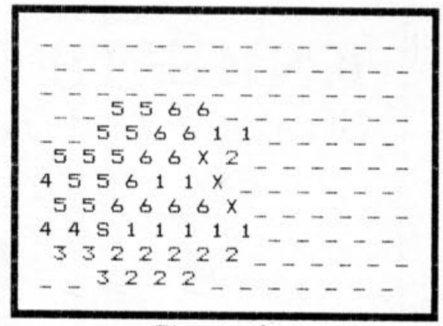


Figure 4

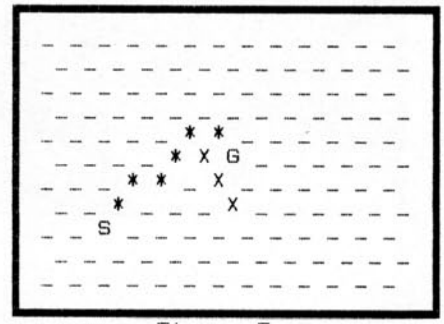


Figure 5

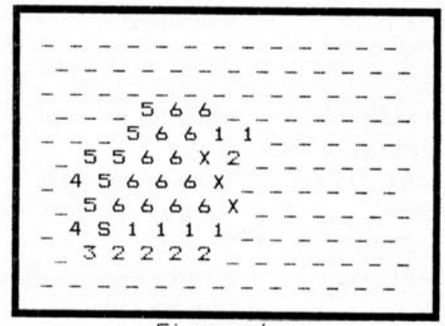
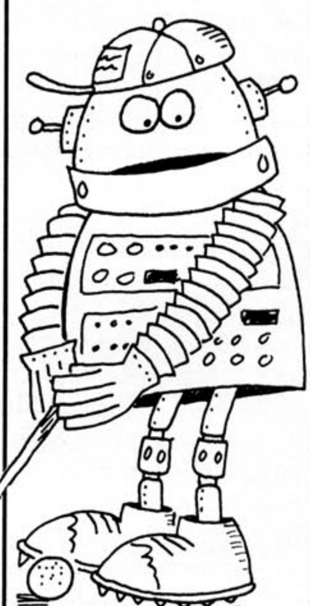


Figure 6

CGW GOLF TOURNEY RESULTS



Our congratuations go out to Phil McCloud of Schaumburg, IL who won CGW's Golf Tournament. Phil fired blistering rounds of 66,55, and 62 to finish 29 under par in the three round tournament.

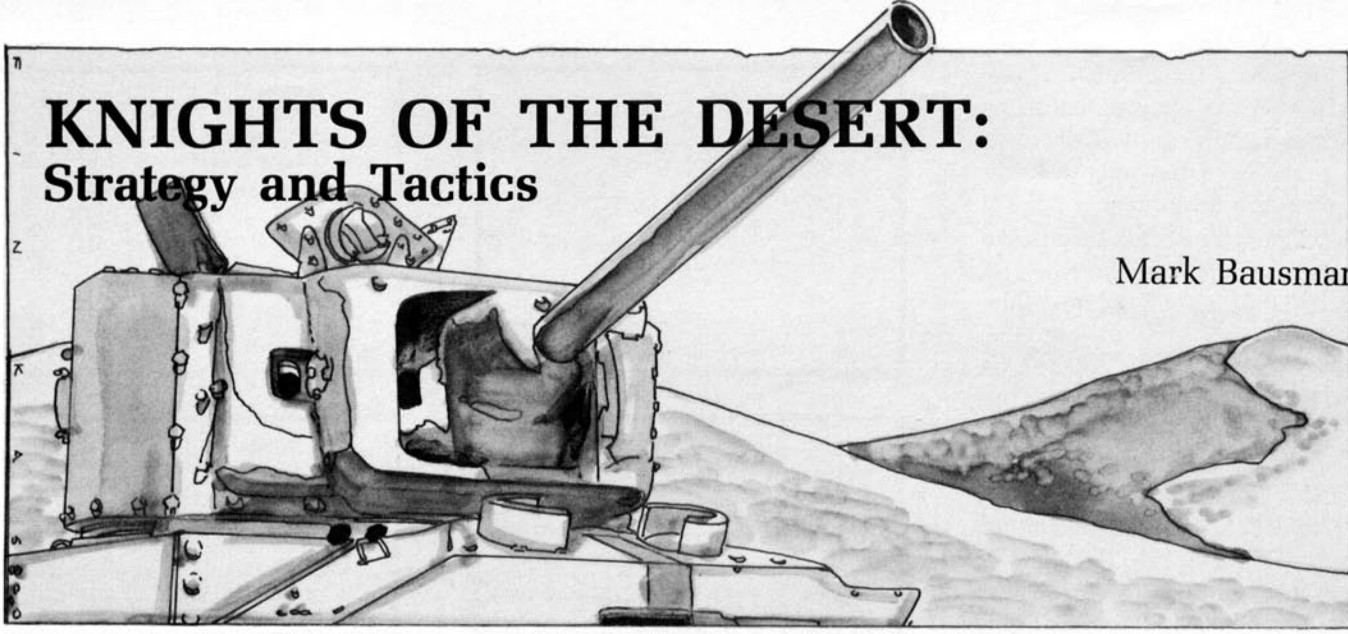
The tournament, which was announced in CGW 3.5, made use of Avant-Garde's *Hi-res Computer Golf 2*. One round was played on each of the three courses included with the game. *HRG2* has a tournament routine which permits play–by–mail tournaments. This routine prevents doctored scores by way of a coding which appears with a score in a tournament round and can be used by the tournament directors to determine if the round was played according to the rules of the tournament. Such things this coding would reveal would be attempts to alter the score, or any attempt to start the round, quit and start over.

We had sixteen entries. The average score per round was five over par. Scores range from Phil's tournament low of 55 in his secord round to a 101 posted by one player in the first round.

Finishing in second, nine strokes back was Phil's playing partner Ken Maloney (-20). Hmmm? When asked how they did so well, Phil indicated that he, Ken, and others have been playing the game "for money" for a year. That could tend to sharpen your game. Placing third was Kevin Hill of Maregno, OH. He finished with a 17 under par 192. All other entrants finished the tournament over par.

KNIGHTS OF THE DESERT: Strategy and Tactics

Mark Bausman



NAME:	**Knights of the Desert**
TYPE:	**Wargame**
SYSTEM:	**Apple, Atari, TRS-80**
FORMAT:	**Diskette or Tape**
#PLAYERS:	**1 or 2**
AUTHOR:	**Tactical Design Group**
PRICE:	**$39.95**
PUBLISHER:	**Strategic Simulations**

Knights of the Desert (KOD) recreates the period of the North African Campaign from March 1941 to January 1943. The game is played in turns with each turn divided into phases and each phase divided into player actions. Every action, such as movement or combat, requires expenditure of supply and operation points. The game is won through accumulation of victory points or by taking the opponents home base. If you are not familiar with KOD, then you should read the feature review in our last issue.

A look at the victory points table and the *Order of Battle Chart* in the rules book will quickly point out an overall strategy. The Axis must push its units as far east as it can and capture the town of Tobruk as well as any other towns it may be able to reach. The allied strategy to counter this, must be to hold the towns and fight as slow a withdrawl action as possible until reinforcements arrive. The rules book suggests that the Axis player should be able to capture Bardia and surround Tobruk on the first turn.

Since the first turn is vital to a winning game, I have chosen the *Tobruk 41* scenario to examine the tactics of KOD. As the Axis player you must get 220 points for a strategic victory. The Allies need -130 points for the same. The Allied tactics are fairly simple — consolidate, fortify, and defend. The Allies should attempt to force the Axis to use as many operation and supply points as possible in attacking Allied units. Given the chance, The Allies should withdraw the armor and depot units located near El Agheila to Benghazi using the coast road. The Axis players tactics are not so easy to chose. In 1941 Rommel decided to use the desert route in hopes of capturing Bardia and Tobruk and cutting off the retreating Allies on the coast road. In the longer scenarios this is a tactic to consider, as on the second turn you will be able to attack Bardia and Tobruk and squeeze the Allies between arriving reinforcements and your advanced units. In the one turn scenario, as in all scenarios, operations limitations must be taken into consideration. *Nonmechanized* units receive only 36 operation points per turn, while clear terrain squares cost three operation points each to cross. This means that the nonmechanized units can not reach Tobruk in one turn by going across the desert. By sending the nonmechanized units up the coast road they may not only reach Tobruk, but also have enough operation points left to attack it. The same story is true for the mechanized units. By going up the coast road they will have enough operation points left to attack either Tobruk or Bardia. (Going up the coast road will also get you Benghazi). Of course some must sacrifice for the greater good. There are Allied units on the coast road and someone must deal with them. There is no better division suited to the task of destroying weaker units that the Italian *Ariete Armored Division.* It starts at nearly 100 percent combat strength and almost completely supplied. It can make short work of the depot units between El Agheila and Tobruk capturing their unused supply in the process. *What of the 2nd British Armor and its supply depot outside El Agheila?* In the longer scenario I recommend you attack and destroy these units with the Ariete Armor supported by Italian infantry. The attacks should be at low intensity, as you will have favorable odds. In the Tobruk 41 scenario you can ignore these units and save your supply and operations points for the attack on Tobruk and Bardia. Capturing Benghazi, Tobruk, and Bardia along with the destruction of the forces defending those towns and the movement of your forces that far East will guarantee a strategic victory. ■

Micro-Reviews

NAME: **Starbowl Football**
TYPE: **Sports Simulation**
SYSTEM: **Atari**
FORMAT: **Disk & Cassette**
#PLAYERS: **1 or 2**
PRICE: **$31.95**
AUTHORS: **Dan Ugrin & Scott Orr**
PUBLISHER: **Gamestar, Inc.**

What do you do when the season is over? When snow at last lies thick on the local football field and the last Bowl games are decided — does that mean that you've got to spend the rest of your winter weekends actually cleaning the garage or sweeping out the attic? No...not if you're lucky enough to own an Atari Home Computer and a neat little program from Gamestar, Inc. called **STARBOWL FOOTBALL** (SF). Limber up your throwing arm, football fans, it's STILL football time!

SF is a sports program which was released in 1982 but which has only recently received attention from the media. The general lack of good sports games for the Atari makes this program particularly attractive, because it is one of the best football programs for the Atari currently on the market.

Although many types of computer games can afford to be visually abstract, we expect a sports game to reflect reality as closely as possible. In this regard, SF fits the bill very nicely. It is visually full of nice touches such as a green, one-hundred yard field that is marked off in ten, five and one-yard intervals with proper end zones, goal posts and yard markers. The football players themselves are reasonably well-designed and are quite nicely animated. Sounds include a couple of rousing college fight songs, a bit of the "Star-Spangled Banner," referees' whistles, crowd roar and even the sound of the ball being kicked.

Overall, the graphics rate an above-average evaluation and, I suspect, will be pleasantly satisfying even for us hard-to-please Atarians.

Okay, so the game looks good. But what about the game-play? First of all, SF is easy to play. Even though it claims to have 196 different combinations of plays to choose from, it really only offers a choice of four pass plays and three running plays on Offense, and the same number of counter-plays on Defense. While this may not seem like a lot, it serves to keep the game moving along at a brisk pace. Thus, after only a few minutes study of the easily-understood game instructions, you'll be managing your team like John Madden, himself. Nevertheless, the game is not easily mastered. It requires a combination of strategy and timing in order to score big. In this, you'll be more successful against a human opponent than against the computer, since the computer opponent is much too formidable to be of much use, even for practice. (For instance, in a typical game against the computer, a friend of mine threw in the towel after the score had reached 100 to 0. However, the game designers claim that the computer CAN be beaten, so maybe it's a matter of persistance).

Besides the one or two-player play mode, you can select from two different skill levels — College or Pro. I would suggest the College level at first, but the Pro level offers the most fun once you have mastered the basics of the game.

In SF, the action takes place on a horizontal football field of which only about 35 yards are visible at any one time. The television screen automatically scrolls the length of the field to keep up with play as the teams move up and down the gridiron.

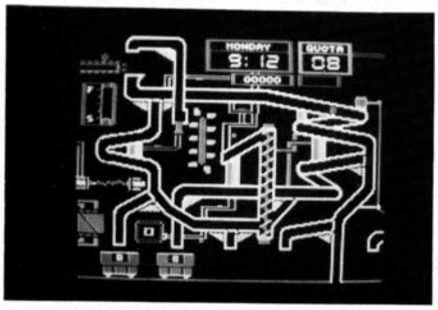
As in real football, the object in SF is to outscore your opponent with touchdowns, fieldgoals or safeties. While trying to accomplish this, you must learn to contend with the game clock, the 30-second clock, interceptions, fumbles and penalties. The entire contest is controlled with the joystick, including play selection. There are six men on each team, only one of which you control — the *ball carrier* on Offense, and the *Free Safety* on Defense. The computer controls the movements of the other men. However, you get to program the pass patterns for each Receiver and the blocking assignments for the Offensive line, as well as the pass coverage for the Cornerbacks and the rushing assignments for the Defensive line.

Once the ball is hiked, the quarterback has the option of running with the ball, or passing it to a receiver — assuming that you have previously (in secret) designated one as eligible. The free safety may blitz the QB or hang back and try for an interception or to tackle the runner. To complete a pass, you must hit the trigger the instant the ball arrives at the receiver. Becoming proficient at this takes some practice, so be patient! (Even then, if the receiver is closely covered, the pass may fall incomplete). Running into anyone while carrying the ball, even your own man, can result in a tackle, which sometimes can turn into a fumble — an automatic turnover. However, score a touchdown and your man does a little victory dance in the end zone — a fitting "in-your-face" to a successful drive!

Anyone looking for a reasonably accurate and visually enjoyable simulation of the game of football is sure to be pleased with SF. The major deficiencies lie with the discouragingly and unrealistically tough computer play and perhaps in the overemphasis of the pass as opposed to the run. (Don Coryell would love this one!) All in all, however, I would

recommend this game to anyone with a friend who is looking for an excuse not to have to clean the garage next weekend.

Bob DeWitt



BASIC INFORMATION

NAME:	**Gumball**
TYPE:	**Arcade**
SYSTEM:	**Apple II (48K)**
FORMAT:	**Disk**
#PLAYERS:	**1**
AUTHOR:	**Robert Cook**
PRICE:	**$29.95**
PUBLISHER:	**Broderbund Software San Rafael, CA**

Can you use transcendental curve smoothing techniques to predict production schedules? How are your shop floor control techniques? Are you proficient with balanced line loading?

Well, even if you couldn't tell a bill of material from a breakeven analysis chart, there's a new factory game for you. In 'Gumball', you don't have to build the factory (some crazy man already did that). You don't have to climb around on it. You don't even have to jump over pieces of it. All you have to do is operate it. Using joystick or keyboard, you throw levers to direct production outputs and to position colored bins under the output chutes of the factory to collect the colored gumballs as they are made. Be absolutely sure to catch each gumball in the properly colored bin. Make just one little innocent mistake and the Quality Control inspector will come out and dump the entire bin. By the by, a color TV or monitor is a must!

Just like in every factory, there's more to your job than that. There's the *quota*, the *time clock* and *conveyor belt speed*. You control only the belt speed. In fact, if you don't speed things up considerably in the later rounds, you'll never meet your quota before 5:00 p.m.

Don't punch your time clock just yet, there's more. Some of the gumballs are rejects. Let them go into the reject bin or your point total is severely penalized. The first few times played, I ended up with *00000* points. It's a little demoralizing to play for five minutes and end up with zip. In fact, it feels a lot like the first day on any new job. And, if all that isn't enough, some deranged bunch of dental school dropouts have put gumball bombs into the works. You've got to get them in the sights of a LSCFFG (Let's Save Candy For Fun Gun) to get rid of them.

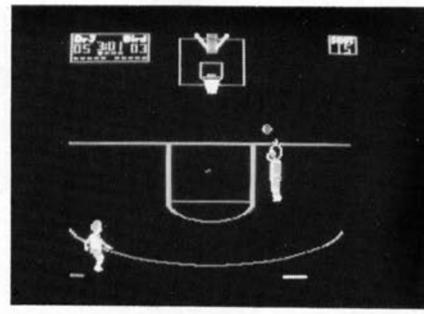
The graphics of 'Gumball' are delightful. Objects move smoothly in front of and behind each other, as if you just plugged a special graphics board into your Apple. In fact, it's worth catching a few gumballs in the wrong bins just to watch them tip over.

Between shifts, there's a cartoon and a promotion. The cartoon shows the victorious factory worker returning home after a successful day at the factory. (Does making gumballs really generate all that smoke?) As the rounds progress, the home he returns to gets fancier. It had better! The first bears a striking resemblance to a building which should have a crescent moon carved into its door.

Game play requires a lot more strategy than you might suspect at first glance. The game can be played on a number of levels. The most basic is to simply meet your quota and move on. If this is your goal, you can pretty well forget about where you dump the reject gumballs, and not worry too much about missing some good ones. Just concentrate on catching most of the colored ones in the right bins, getting your quota and your promotion.

On another plane, however, is the goal of maximizing points. Now you must treat every moving gumball with equal attention. You'll find yourself becoming a clock watcher. "If I work for just a few more minutes, I could get another 1000 points", are the words of a newly created gum-a-holic.

John Besnard



BASIC INFORMATION

NAME:	**One On One**
TYPE:	**Sport Simulation**
SYSTEM:	**Apple**
FORMAT:	**Disk**
#PLAYERS:	**1 or 2**
PRICE:	**$40.00**
PUBLISHER:	**Electronic Arts San Mateo, CA**

With 15 seconds to go, score tied 24 — 24, Dr. J inbounds the ball at the 3 point line. He fakes left, drives right, and with :05 left on the clock goes up with a 16 foot turn-around jumper . . . he scores! 26 — 24 now with :02 left to go. Larry Bird inbounds the ball, steps backwards across the 3 point line, and lets fly as the last second ticks off the clock . . . It's good!! Three points for Bird, and he wins 27 — 26!

Thus ended my first victory at the College level over the computer controlled Dr. J in Electronic Arts' latest software masterpiece, the incredibly realistic "Julius Erving and Larry Bird go One on One" (0/0). In our interview in CGW 3.6, Trip Hawkins, President of EA said he wanted to produce games that were "simple (easy to understand), hot (fast and intense), and deep (the more you play, the more you find). One on One shows just how successful those concepts can be.

The first and last word on 0/0 has to be graphics. Absolutely fantastic!! After a few minutes of playing, you feel like you're watching TV, but controlling the action. The players dribble with either hand, spin and twist and twirl and leap just like in real life. Each is given different abilities as in real life. Bird is the better outside shot and rebounder, but Dr. J has inside moves that'll make your head spin, and seems to have a knack for stealing the ball just at the right moment. One friend of mine said he found it easier to beat the computer using Dr. J. I find it easier with Bird.

For those who avoid lengthy rule books like the plague, 0/0 is your dream come true. The joystick controls player movement, while pressing the button starts a jumpshot and releasing it lets the ball fly. A quick flick of the button turns your player around 180 degrees. On defense, the button causes an attempt at a steal or to block a shot, or go for a rebound. In the two (human) player game,

the defense can play with the keyboard, or you can use one of a number of peripherals to equip your machine to use a pair of joysticks. And that is it. You can now boot up and start playing. When you do, I'd suggest starting at the Park and Recreation level, rather than Varsity, college, or Pro. You need to learn to walk before you try roller skates.

Your options in playing a game are numerous. You can play to a set score — say 21 — or with a time limit of 2, 4, 6, or 8 minute quarters. Your choice of either winner's or loser's outs. The computer will play either Larry Bird or Dr. J, and you can even vary the options in mid-game. If, for example, you happen to be losing by 15 to 20 points at the college level, (a not uncommon situation) and decide to make things easy on yourself, you can change levels to a Park and Rec game and attempt the comeback of the year. Or when you're way ahead, up the computer to Pro level and see how it feels to have defeat snatched from the jaws of victory!

All games are played with a 24 second shot clock to keep the action flowing, and an extra touch of realism is added by the fatigue indicators at the bottom of the screen. The more you do, the more you tend to gas out. Attempts at steals, running and jumping are all good ways to expend energy, and since the number of timeouts are limited (fatigue drops to 0 after a timeout or at the end of the quarter) you may find it wise to slow things up a bit from time to time. As fatigue increases, your effectiveness decreases. Eventually your leaping attempts for the rebound may look more like a drowning chicken than anything else, so watch yourself carefully, and conserve your energy and timeouts.

Any game benefits from those little extra touches. When you make a spectacular play, you're ready for a pat on the back and One on One gives it to you with an Instant Replay. The computer will freeze the live action and replay your (or its) brilliant play, giving you a moment to beam with pride (or curse, as the case may be). And when you slam a particularly good dunk, the backboard will shatter, and you'll get chewed out. A hint here . . . stand still while they clean up, you'll benefit from the rest.

Lastly, foul shots take a special touch. Watch the computer player when he shoots, and eventually you'll catch on.

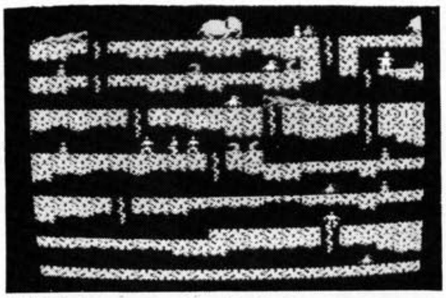
One of my only (minor) problems in playing the game is that when things are hectic underneath the basket, it is sometimes hard to tell who has the ball. Particularly on defense when you're trying to steal, I often find that I've gone up to block a shot without realizing that I've gained possession of the ball. This is ok, sometimes even good strategy at the Park level where you get the ball at the inbounds marker if you forget to clear it (we're playing half court, remember), but at the college level, you'll have a turnover for failure to clear. Perhaps a possession change sound or light indicator would help.

The other thing that I really would have liked is an overtime period for the timed games. Of course, you can simply play another two minute quarter, but the computer doesn't know that it's overtime, and you lose a little drama.

Every game designer must hate reviewers who add all their little suggestions now that the time for change is past, but I'll be looking forward to edition two of this one. I hope game designer Eric Hammond carrys through on his teasing comment of wanting to add hook shots to the players' repetoire at some point, and I'd like to see an option to allow PRACTICE at free throws, or perhaps even a free throw game. The problem in making a game as realistic as 0/0 is that you can think of a million add-ons that simply can't be included. Can we — hope? dream? pray? — that additional player discs — Kareem? Wilt? — may be forthcoming?

When nominations are made for Computer Sports Game of the Year, 0/0 will be there. Super graphics, constant action, the opportunity to out-think and out-hustle your opponent all make this one of the best computer games I've seen. Period. Keep'em coming, Trip.

Dave Long



NAME: **Floyd of the Jungle**
TYPE: **Arcade**
SYSTEM: **Atari**
FORMAT: **Disk/Cassette (32K)**
#PLAYERS: **One to four**
AUTHOR: **Sid Meier**
PRICE: **$29.95**
PUBLISHER: **MicroProse Software**

FLOYD OF THE JUNGLE (FJ) is a variation of the climbing/jumping theme, the object of which is to help the mighty Floyd negotiate various jungle hazards in his attempt to save the "lovely" Janice from the perils of the jungle.

Unfortunately, our distressed heroine cannot budge from her spot at the top of the screen (perhaps she is mired in a tar pit) and, starting from the bottom of the screen, Floyd must run, jump and climb his way to the top in order to save her. Alas, as in most tales of the heart, all his efforts ultimately go for naught, for even at the moment of victory, Janice is snatched from his bosom and thrust into another life-threatening situation (there are five different ones in all) and poor, foolish, gallant Floyd must conquer the jungle all over again.

Each screen presents a static playfield which is divided by jungle foliage and a river into a series of levels through which Floyd must run while avoiding pygmies, snake pits, bands of vicious monkeys, large, toothy tigers, alligators (actually crocodiles, unless this is Florida) and ponderous elephants with very large feet. He can punch the lights out of the pygmies with a blow from his mighty fist, but he must jump over everything else. Controlled by a joystick, Floyd can run and jump left or right and climb up and down the hanging vines which connect the various levels. He must be careful however, for if he mistimes a jump, he will die a horrible, crumpled-paper-doll death beneath the feet of an elephant, or on the fangs of a hungry tiger or croc.

FJ has some definite pluses but, in this reviewer's opinion, it also exhibits several minuses. For instance, if you're like me, you like to see a lot of colorful action in a game of this type. Here, the scenario is a cute one and offers a lot of visual potential. But, while the screen is admittedly full of animation, it is not very colorful. It consists mostly of images in white, black, grey, yellow and dull green.

Floyd himself is very nicely done but the rest of the cast leaves much to be desired, especially the "unlovely" Janice, who is downright ugly. (Also, a particular problem with the choice of colors becomes apparent when Floyd attempts to cross the river, since he becomes almost invisible while superimposed over the white-colored river).

On the plus side, FJ is one of the few programs that allows up to four players to compete simultaneously (four joysticks must be used). In the multi-player mode, each person controls a "Floyd" of a different color. They compete to reach Janice, aiming ultimately to achieve a previously selected number of points in order to determine the overall winner. Since you have an unlimited number of Floyds at your disposal and because there is no time limit or any other variable to work against, the greatest enjoyment and challenge in this game is realized through this type of competition. In the multi-player mode, when your Floyd meets an untimely end and must start over again from the bottom of the screen, the desperate scramble to catch up with his rivals can make for some pretty entertaining competition.

In view of the many superbly-crafted games of this genre on the market today, FJ finds itself up against some pretty outstanding company. In my opinion, he comes up short. However, FJ is less expensive than much of its competition, and may therefore be an acceptable choice for some gamers.■

TITAN (Cont.)

vary. The maximum number of armies per planet as well as what your ship can carry at any one time is 255. I found that the safe number of armies per planet is 200. This gives you a safety margin in case the planet is attacked while you are somewhere else, depleting your armies in battle which could lose you the planet. You must transport armies to replenish any planets or to beam them down when attacking enemy planets.

Some general comments are as follows:

— when traveling between planets and attacked, slow down to warp zero to improve your shooting accuracy.

— the enemy will get one last shot after it is destroyed, so don't drop your shields too fast after battle.

— there are various types of enemy ships — each of which has different capabilities — so be advised.

— when you attack a planet or moon it fires back. Also, if the orbits of a friendly and enemy planet or moon get within range of each other they will fight it out among themselves with or without your aid.

When I first booted TE, I expected a game similar to **Galactic Attack** by Sir-Tech. But, while the basic objective was the same, several features had been added to further enhance the game. Features which I feel added to the enjoyment of the game (i.e. different types of enemy ships, more display windows, planets shooting back or between each other, realistic planet orbits, etc. . .)

TE requires strategic planning but occasionally requires you to use quick reflexes in an arcade style confrontation with the enemy. The various graphic displays also lend themselves well to smooth player interaction in this overall playable, but sometimes frustrating game. ■

SILICON (Cont.)

shows the trace map for MIBFS, while its path is identical to the one found by BFS (Figure 3). The MIBFS algorithm added only 47 hexes to OPEN and expanded only 20 of those, giving an expansion rate of 43%.

CONCLUSION

That's it for this issue. Next column, we'll take a harder look at the performance differences between BFS and MIBFS and see if smarter really is better. We may also play around a little with different terrain types. See you then.

TELE-GAMING (Cont.)

consists primarily of a large picture window looking onto the vast front lawn and beyond. This is a good place to watch the many visitors coming and going; perhaps you might even spot someone you know. To the north is a set of double doors leading to the banquet room. To the east, the doors leading out to the foyer. Why not walk around and visit with the other guests? Grab a seat!

The "P.A." (public address) system allows you to send messages to others who are currently online. It is also used to alert all members to the entrance or exit of a guest. A control-G is sent to your computer, then a one-line message such as "Sirena walking into Parlor" appears on your screen. In this way, you can let your friends know that you wish to chat or get together for a game. Multi-player games, such as "Medieval Conquest," "18 Wheeler," and "Oil Baron," are easily scheduled by posting messages on the bulletin boards that are available in the alcove areas. Of course, electronic mail is also widely used and each member can sign up for his or her own mailbox (located in the Mail Room, just to the right of the foyer entrance).

The Lower Level (basement area) is where subscribers spend much of their online time. The popular game of "Eamon," with fifteen modules donated by author Donald Brown, is played by visitors to the Time Room. In the Club Room, gamers can choose from one- or two-player versions of "Blackjack," "Rack-Up," and "All/None." Naturally, the State Room is the site of ongoing play-by-mail "Diplomacy" campaigns. Fans of war simulations participate in "Nuke Strike" and "Destination Midway" in the War Room. Other gaming locales include the Board Room (chess, checkers, and backgammon), the Locker Room (baseball and football), the Engine Room ("18 Wheeler," "Cargo Master," "Makin' Tracks," and "GM Air Freight"), and the mysterious Chamber (which you "Enter at your own risk!").

Although the Lower Level's gaming rooms and the Parlor are the mansion's most popular areas, many hours of online time may be enjoyably spent exploring other floors of the house. From the first floor, with its Foyer, Mail Room, Parlor, Kitchen, Pantry, Banquet Room, Greenhouse, and Garage, you can ascend the grand stairway to the second level where you will find the Conservatory, Work Room, Bedroom, and Library. The Library houses a number of "books" which describe all the rooms and features of the mansion, and the Bedroom contains an alarm clock which announces incoming mail and alerts you to the presence of a waiting gameroom opponent.

Three Conference Rooms, a Newsroom (local user group updates), a Guest Room, the Balcony, and a Dark Room (photographic tips) are all found on the third floor. On the fourth level, you can access learning programs in the Class Room, view computer art in the Gallery, post general messages on the Magic Blackboard, or download programs from the Archive. The top floor houses the Observatory (horoscopes and biorhythm charts) and the Divination Room (the Oracle's abode).

As if all of these offerings were not enough, the enthusiastic *GameMaster* staff mails a printed "Gazette" seasonally to all members. This newsletter announces contests (with free system time as prizes), gaming tips, picnics, and birthday parties. What does it cost to subscribe to this exciting system? Basic membership is $15 and includes a documentation package and four hours of connect time (which is thereafter $3/hr.). There are several ways to obtain a subscription: 1) send a self-addressed, stamped envelope requesting a registration form to: GameMaster, 1723 Howard St., Suite 219, Evanston, Illinois 60202; 2) sign up with a registered dealer in the Chicago area; or 3) contact the hotline at (312) 328-9009 and use your credit card. *GameMaster* also operates a separate bulletin board system (run on an Apple computer) which provides current information. The modem number of the BBS is (312) 475-4884. Since the mansion itself and the BBS are in the Chicago area, many subscribers have to add on the cost of long-distance telephone calls to their total connect charges. However, the mansion is certainly worth an occasional visit by out-of-town guests.

Other notable interactive, multi-player gaming systems include: *Delphi*, (617) 491-3393, in Cambridge, Massachusetts; *Plato*, (800) 233-3785, in San Diego, California; and *Info-Net*, (800) 527-2432 (outside Texas) or (800) 442-6586 (within Texas), in Dallas, Texas. (All numbers given are for voice phone.)

As always, I welcome comments and information about your tele-gaming experiences. You can contact me on CompuServe (ID 72145,42) or by writing to me at: 195 Claremont Avenue, Suite 115, Long Beach, California 90803.

CARRIER FORCE (Cont.)

ly accurate radar reports, which means it will be difficult to surprize him with readied aircraft on the decks.

The USN torpedo bombers are generally vulnerable and ineffective, and should be reserved for finishing off cripples. The US Army level bombers are worthless for antiship missions. The SBD dive bombers, however, are the best US strike aircraft, and you should send them out first.

A rough handicap in a two player game would give the less experienced player the IJN in the first two scenarios, or the USN in the last two scenarios. In general, the relative USN strength improves as the war progresses, and it is probably easier to beat the computer in the later scenarios. In the solitaire games, the only difference between the four difficulty levels is that the computer's search capability becomes more effective at the higher levels.

The program's solitaire play capability is excellent. The computer tends to follow the historical IJN strategies, yet it is unpredictable on the details. In the Coral Sea scenario, the computer will try to land assault troops for the invasion of Port Moresby. In Midway, It will continue to savagely pound Midway until it spots the US carriers. In Eastern Solomons, the computer tries to unload transports at Henderson. And, in Santa Cruz, it comes out aggressively seeking a decisive fleet engagement.

After making contact, the computer's carriers try to maintain a range of about 250 miles from the US carriers. It usually orbits 12 fighters over each carrier, and keeps at least 12 aircraft readied on the deck at all times. The computer tends to combine most of its planes into a few large strikes, with about one third of the strike planes being fighter escorts. Its high priority targets are your carriers, and the Kate torpedo bombers can be very deadly. The computer's battleships generally move forward seeking surface combat, especially at night.

Planning your search patterns is a key factor in this game. It is important that you find the enemy carriers before they find you. It may help to surround your task forces with several small fighter patrols to hopefully shoot down the enemy search planes before they find your ships.

This is the first game Gary Grigsby has designed on the Atari. Gary says he finds it easy to translate a program designed on the Atari to the Apple, but very difficult to do the reverse. This is good news for both Atari and Apple owners, because both will benefit from having more high quality games which will run on both machines.

[Ed. note — *Floyd Mathews was a playtester for CARRIER FORCE.]* ■

NATO (Cont.)

that will allow it to apply maximum pressure at your weakest points. It also takes advantage of the fact that its forces can not be seen until they are adjacent to a NATO unit or are spotted by air-wings on reconnaissance missions.

Air-wings should first be assigned to air superiority missions. When the status report tells you that WP air support was light or non-existent then press the "F" (freeze) key and reassign air-wings to ground support or reconnaissance missions. (I favor the recon missions because knowing where the enemy is can save you from some nasty surprises.)

Use the helicopters as attack support units as they are not very effective when attacking alone. Armored cavalry supported by choppers is very effective against WP infantry especially if they use chemical attack while the choppers use accelerated attack. You can win scenario one if you can set-up a good defensive line behind the river with a slight bulge at the helicopter site.

Scenario three is the only offensive scenario and it starts with a massive NATO strike against WP air bases. This gives NATO clear cut air superiority and increases its combat capability. Each scenario will end when the time limit has been reached or the victory points tally enough to indicate a clear cut winner.

ANALYSIS

My only complaints with this game were that the forces are too unbalanced in favor of the WP to allow a really good battle and that the game seems to end before the allotted number of turns if the victory points become too unbalanced. Also, do not press the *S* (save game key) unless you really want to save the game. Pressing it will clear the mapboard and you can not get the units back. I had a good defense going in scenario four when I accidentally pressed it while going for the *A* key. So far I have not played a scenario that ran long enough to want to save it.

When I first began playing board games, my main complaint was that the play was taken in turns with sometimes multiple phases for each sequence of events. The objective of course was realism. When computers started offering strategy games I felt this could be the solution to the age old problem of realism since the computer could handle all the details. Only recently, with such games as **COMBAT LEADER** and **NATO Commander,** has the true power of the computer worked to present a realistic simulation of combat. **NATO Commander** combines the map, scrolling, and unit symbols of **EASTERN FRONT** with the realistic game system of Combat Leader to obtain a superb strategic simulation.■

SIM CANADA (Cont.)

The intelligence output and order input are both rather cumbersome. All information is obtained one unit or area at a time; it would have been very helpful to get a tabular display of, say, current positions of all units, or positions of all Army headquarters, or locations of all detected enemy units. The order entry procedure is more understandable, as one does need to give the order, the designated unit, the area to be attacked or defended against, and also possible exploitation paths. The airpower entry, though, is particularly slow. It's a shame that an important but peripheral aspect of the major ground action consumes an inordinate amount of order entry time.

The best thing about *FG* is that it does accurately portray the abilities of the various combatants and it allows historical actions. The Germans can hit hard towards Sedan, break through, and race for the sea. The infantry will be left behind, and you may get a taste for just what a gamble this was if you have an able Allied opponent (and especially if you use the set-up option of an improved Allied training doctrine). Also, if you play the Germans, you don't need to capture Amsterdam to force the Netherlands to surrender. Just follow the historical plan of sending the 18th Army smashing through Nijmegan to Rotterdam. Holding both territories cuts off the bulk of the Netherlands from the rest of the Allied forces, and the country will capitulate within one turn. Watch out, though, for one good counterattack against Nijmegan before they go belly up!

FG shares the same "lack of documentation" problem that is so vexing in *GSGS*. It is a little more understandable here, since so many current computer wargames omit any sort of combat results table (the computer will do it all, so why bother the player). Of course, you can only learn by trial and error how many units to commit to a particular attack in order to have a good chance of success, or how many areas can be traversed by marching for one turn, or how serious are the effects of each type of terrain in combat. I still don't know how much contribution I'm getting in my assaults by adding a particular level of air power on ground support. Maybe I'm too demanding and most gamers don't want to be bothered with all the data, but I get more enjoyment from a historical simulation if I've made my decisions based on more than just a "well, let's try this and see what happens" level of understanding.

Final Thoughts

I really don't mean to dump on these two games as far as documentation goes; they are really no worse than many

current releases in this regards. Unfortunately, running with the pack is, in my eyes, not good enough.

Both games are good simulations, and appear to be built on well researched data bases. They are both designed in presentation and content for the board gamer who now has a computer and wants to make use of its limited intelligence and rules adjudication abilities. That's fine with me. Now, if they would just print up player-aid sheets, I could be buying a lot of Simulations Canada computer games in the future.

NOTE: Early shipments of *Fall Gelb* had a bug which caused the program to crash in a particular situation. The problem will have been fixed by the time you read this. It had to do with the "SH" (shift headquarters) command, and only appeared in solitaire play. To check whether your disk has the problem, start a solitaire game, and give only two orders in the first turn: an SH to any Army headquarters unit, and a move order to any other unit. If the program crashes during the computer execution of the turn, you've found it. You can return a faulty disk to Simulations Canada with a note of explanation and they will send a replacement. ■

GEOPOLITIQUE (Cont.)

is necessary if there is to be room to show the location of fleets and armies, small glags that indicate US/USSR sympathies, and letters to show existing treaties. The oceans of the world are divided into 13 Ocean Areas which are used solely for the deployment of fleets.

THE KEYNESIAN SCHOOL OF DIPLOMACY

Any strategic game should impose some sort of constraints on your actions. This prevents you from doing *everything* and forces you to make choices and assgn priorities. In GEOPOLITIQUE, these constraints are *economic.* Each country has a rating for three categories of raw materials (food, metal, and energy) and for industrial capacity.Industrial capacity is used to produce raw materials (up to limits set by the above ratings) and to convert raw materials into "finished goods".

There are only five kinds of finished goods and none of them are automobiles or refrigerators. Instead, we have military Maintenance Points (MMTP), Military Mobilization Points (MMBP), Political Action Points (PAP), New Industrial Capacity (NIC), and Mobilization Capacity (MCAP). Wow, what a lot of fancy words; let's see what they mean.

You need one MMTP per turn for each fleet or army that is mobilized. If you can't produce enough MMTP's then you are forced to demobilize the units that can't be maintained. You also need a MMTP to "ready" a unit for a turn. A unit must be readied to conduct a local war and readied units exert more influence over negotiations.

You need one MMBP to mobilize a fleet or an army. All newly mobilized units appear in the US (or USSR) and must be deployed from there. Movement is simple, each unit can move to one adjacent area turn. Armies can move across any number of ocean areas as long as each is occupied by a friendly fleet. There is a limit to how many units can be mobilized in one turn. This is the Mobilization Capacity, or MCAP. MCAP can be increased at considerable cost, as a result of production.

Political Action Points represent your capacity to support negotiations abroad. Like MMTP, they are relatively cheap to produce but cannot be saved. You scatter them around, no more than two to a country in any one year. After allocating, you get to negotiate with any country where you have a PAP. However, each Soviet PAP cancels one US PAP and vice versa, so if both powers put one PAP in Central America then nobody gets to negotiate. Even if you choose not to talk at first, a long-term investment of PAP's can slowly make a hostile minor more amenable.

The last "good" that can be produced is New Industrial Capacity. These points are simply added to the current capacity so that there is more available the following year. If you can combine industrial growth with economic treaties with minors (to raise the raw material base), you can boost GNP quite rapidly.

STICKS INSTEAD OF CARROTS

What if your national prestige drops so low that nobody wants you as a partner? Then you concentrate on increasing your military strength and taking over minors by force. A successful local war will give you automatic economic, political and military treaties with that country. However, the government also becomes rather hostile so it is necessary to keep an army there to prevent the USSR from obtaining a neutrality treaty. A successful campaign of military conquest will inevitably lead to war with the other superpower. At this point, you discover that you've been playing *GEOPOL* and that another game, *GEOWAR*, is available on the other side of the disk.

GEOWAR seems similar but is subtly different. The turns represent three months instead of twelve and there is no more negotiation. All minors promptly declare their allegiance or neutrality. Military units acquire strength ratings. Depleted strength is rebuilt by Reinforcement Points, which become the primary output of economic production.

Now the race is to see which can dominate the globe. Each country has a value relative to its worth and the first side to amass 60 points for two consecutive turns wins. The power which has already invested in mobilization capacity can seize the initiative by getting its forces into the field more quickly. The one with the greater economic base can also try to attrit the other with repeated combat, being willing to suffer equal losses since it can replace lost strength more quickly.

It's a real global war, but non-nuclear. Those who prefer Armageddon to maneuver will be disappointed, but a nuclear war does not give meaning and substance to the GEOPOL part of the game. As Joshua found out, the only way to win a nuclear exchange is not to play.

CONCLUSIONS

GEOPOLITIQUE 1990 is not only an excellent game, it is an innovative one. It would be nice if it were more detailed (less abstract), it would be nice if you could play either side, it would be VERY nice if there were a two-player version. But I'm not finding fault with what is there; just wishfully thinking of what I'd like to see added to an already full disk. ■

RINGSIDE (Cont.)

here that I began to wonder how to make them "competitive" with the historical figures given to you on the game disk.

A full 'stable' of historical fighters is presented, and each fighter is rated extensively in so many categories that it actually boggles the mind. Here arose my only uncertainty over the game. Fighters are rated in no less than 27 different categories and attributes, and there is really no explanation of where the statistical data given was compiled. Consequently, we really don't know through whose eyes we are seeing the various fighters. My experience showed that Ali and Marciano were the best two fighters overall, but that at any given time, most of the top heavyweights had the ability to beat one another. A single elimination tournament of the top eight heavies saw Ali come out on top, while a seven round 'round robin' tournament with each fighter meeting each of the others saw Marciano come out in first place with a record of six wins and only one loss. Ali stopped him in round 7 of their match, but Ali lost to both Liston by a KO (???) and Louis, giving Marciano the title.

My first 'creation' was some kind of superman; he knocked Ali out three times in a row in the first two rounds. So I decided to try and develop a system for creating fighters of more or less equal resources. Hoepfully this will allow two fighters to have different strengths and weaknesses but still be of comparable mien. With the thought that the system may be of interest to you, but with the warning that it is NOT simple to understand, I present it here for your consideration. Since it is a well documented fact that readers of Computer Gaming World are above average in intelligence, perception and abstract reasoning, you should all have no trouble at all with my rather abstract system.

The main problem is creating a numerical system for rating a newly created fighter is that there are six attributes which are rated with a value of one being the best possible, while all the others have one or a negative number being the worst possible. Thus we have six fields of characteristics, the first of which is Ability vs Boxer/Slugger. Each point allocated in this section costs triple, so if your fighter is rated 1/1, the cost is six points.

Field Two includes ability to Follow Up, to Cut, to Charge In, to Stick and Move, to Stay Away, to KO, to Protect Cuts, and to Work Free. Points allocated to these areas count at face value.

Field Three points are SUBTRACTED from the fighter's total. This field includes ability to Take a Punch, Take Punishment when Hurt, Avoid a KO, to Work Free when Trapped, to Absorb Punishment, and to Not Get Cut.

Field Four attributes are Strength, Quickness, Stamina, and Agressiveness. Quickness is rated from −9 (the fastest, which costs 9 points) to +9 (the slowest, which costs −9 points). Stamina (rated from 125 as maximum stamina) costs 1 point for each 10 units allocated. Thus a stamina of 100 would cost 10 points.

Field Five is composed of two attributes, percent of time that punches land, and percent of extra sting (a measure of how hard your fighter hits). As in field one, points spent here cost triple, with the maximum allowable being 90%, which would cost 27 points ($9 \times 3 = 27$).

The final formula is Field One and Five points times three, plus Fields Two and Four, minus Field Three. As I said, not simple. But, as the game designer was unable or unwilling to make all his values of one format, it's the best I could do. To give you some idea of where to go from here, Ali is a 96, Marciano a 99.5, and Larry Holmes an 85.3. Anyone wishing to give us some feedback will certainly be welcome.

CONCLUSIONS

Even dedicated non-gamers will change their tune when you show them this one, with heads snapping back and bodies crashing to the canvas. Tie on your gloves and come out fighting, folks, because this game is for real!! ■

GOLF (Cont.)

choose to hit a hook or slice?). The screen will show the ball's flight path across the aerial view of the hole.

Out of bounds, sandtraps, water hazards and trees are handled realistically. The game instructions go into great detail in explaining how to handle tree shots. Handling tree shots as an average golfer and taking into account display scaling can make these shots a real challenge.

Finally, when all players are on the green, putting can begin. Each player continues to putt until they have holed out. The overview screen display is now replaced by a putting green display. This is not a fancy display, just a side view of the player a relative distance from the cup. The display shows the distance to the cup and a green rating with 1.00 representing a flat green. The success of your putt is again based on the statistics of your player. You may select from three types of putts. A putt is used most often, a *lag stroke* is used for long putts where you want to reduce the change of 3-putting, and a *charge stroke* is used to make an all out effort to hole the putt, but at the risk of 3-putting.

When all players have holed out, the scorecard is displayed. It totals all scores, separates the front and back nine, and shows the par, distance and scaling factor for each hole. While the scorecard is displayed, the game may be saved to be continued at another time. A typical four player game with one human player can take about two hours to complete.

The player Manual is clearly written. It provides many details covering game design and methods of play to help you perform at your best. The details of play and statistics provided for the player's characteristics are so complete that you may learn things you never knew about your own capabilities.

If you don't have any real statistics to enter, I suggest you enter a driver distance of 220, a wedge distance of 100, a handicap of 12, and an average rating for all other questions. These values provide for a very enjoyable game.

The screen display of club and putting characteristics is very detailed, however the game does not yet have a printer option to produce a hard copy of this data. It would be nice if the final scorecard could be printed. The player disk does save each players statistics (rounds played, average putts, high and low scores, etc.). PTG also saves the top score for each course with the initials of the player setting that record.

PTG is an excellent statistical simulation of golf both in play realism and in what can be learned for playing real golf with all the play options available, you will not get bored of this game very quickly. ■

Reader Input Device

There were 228 RIDs turned in by press time for this issue.

Newly rated games and updated game ratings are listed with **bold type** in the table on page 49.

GAME RATING

The table on page 49 includes games evaluated by our readers. For a game to be included in this listing it must first have been offered for rating in our regular RID rating system. Games offered for evaluation are those covered in the magazine and/or those having a good sales record during the time of evaluation. Once offered for evaluation, the game must have been evaluated by a sufficient number of readers to be included in the results. Any game not evaluated by at least 10% of the respondents was not included in the results.

Games were rated on a scale of 1 (terrible) to 9 (outstanding). Respondents were asked to consider such things as PRESENTATION (graphics, sound, packaging, documentation); GAME DESIGN (design, playability, interesting?); LIFE (does the game wear well?)

RID -12 (Use card provided)

On this page a number of games and articles are listed for evaluation. Please take time to evaluate these games and articles. Use the guidelines above for game evaluation. Leave blank any game which you have not played enough to have formed an opinion.

Please rate articles on the basis of the article itself, not your opinion of the game being reviewed. Enter a zero for any article that does not interest you.

GAMES

1. Ultima III (Origin)
2. Wizardry (Sir-tech)
3. Mule (Electronic Arts)
4. Archon (Electronic Arts)
5. Ultima II (Sierra)
6. Jumpman (Epyx)
7. Bomb Alley (SSI)
8. Zork Series (Infocom)
9. Combat Leader (SSI)
10. Computer Ambush (SSI)
11. Drol (Broderbund)
12. Mr. Robot (Datamost)
13. Super Bunny (Datamost)
14. Pooyan (Datasoft)
15. Sands of Egype (Datasoft)
16. Infidel (Infocom)
17. Soloflight (Microprose)
18. Bouncing Kamungas (Penguin)
19. The Coveted Mirror (Penguin)
20. Aquatron (Sierra)
21. Encounter! (Synapse)
22. Rainbow Walker (Synapse)
23. Cryps of Medea (Sir-tech)
24. Carrier Force (SSI)
25. Titan Empire (Muse)
26. Grey Seas, Skys (Sim. Canada)
27. Fall Gelb (Sim. Canada)
28. Tournament Golf (Avalon Hill)
29. Pro Tour Golf (SSI)
30. Geopolitique (SSI)
31. Starbowl Football (Gamestar)
32. Gumball (Broderbund)
33. One on One (Electronic Arts)
34. Floyd of Jungle (Microprose)

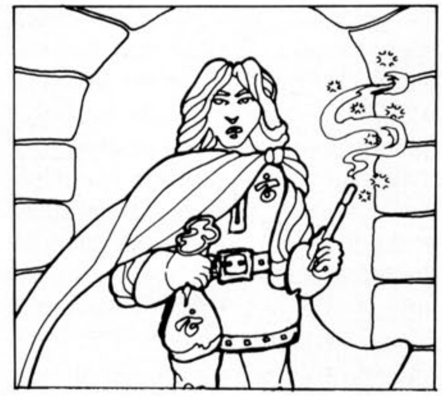
ARTICLES

35. Inside the Industry
36. Atari Arena
37. Telegaming
38. Commodore Key
39. Learning Game
40. Silicon Cerebrum

MISCELLANEOUS

41. How many people will read this issue besides yourself?
42. Are you a subscriber to CGW?
43. What computer do you own? 1 = Apple; 2 = Atari; 3 = C64; 4 = Vic-20; 5 = IBMpc; 6 = CoCo; 7 = Other (Please specify)

Use A, B, C for "letter to editor" space. (If you write a letter to editor, please include your name, hometown, and state.



CHIP & FERB

by Mark Eliot



Reader Input Device

R.I.D. was prepared with the help of SPEED STAT by SoftCorp International, Westerville, OH 800-543-1350

See page 48 for details on the Reader Input Device

Game Ratings

8.25	**Ultima III**	**Origin**	**Apple**
7.97	**Wizardry**	**Sir-tech**	**Apple**
7.65	**Mule**	**Electronic Arts**	**Atari, C-64**
7.63	**Archon**	**Electronic Arts**	**Atari, C-64**
7.28	**Ultima II**	**Sierra On-Line**	**Apple, Atari**
7.22	Jumpman	Epyx	Atari
7.20	Bomb Alley	SSI	Apple
7.20	Zork Series	Infocom	Many
7.17	**Combat Leader**	**SSI**	**Atari**
7.15	Computer Ambush	SSI	Apple
7.13	Murder on the Zinderneuf	Electronic Arts	Atari
7.09	**Knight of Diamonds**	**Sir-tech**	**Apple**
7.09	Knights of the Desert	SSI	Many
7.07	**Lode Runner**	**Broderbund**	**Many**
7.05	The Cosmic Balance	SSI	Apple, Atari
7.04	Blue Max	Synapse	Atari
7.04	**Pinball Construction**	**Electronic Arts**	**Apple, Atari**
7.03	Eastern Front	APX	Atari
7.03	Choplifter!	Broderbund	Mnay
7.00	Computer Baseball	SSI	Apple, C-64
7.00	Guadalcanal Campaign	SSI	Apple
7.00	**Music Construction**	**Electronic Arts**	**Apple, Atari**
7.00	North Atlantic 1986	SSI	Apple
7.00	Operation Whirlwind	Broderbund	Atari
6.98	Southern Command	SSI	Apple
6.97	Olympic Decathlon	Microsoft	Apple
6.94	Shattered Alliance	SSI	Apple, Atari
6.93	Galactic Gladiators	SSI	Apple
6.93	Legionnaire	Avalon Hill	Atari
6.93	Star Blazer	Broderbund	Apple
6.92	Starcross	Infocom	Many
6.92	The Quest	Penguin	Apple, Atari
6.91	Castle Wolfenstein	Muse	Apple
6.91	Deadline	Infocom	Many
6.91	The Warp Factor	SSI	Apple, IBM
6.89	Necromancer	Synapse	Atari
6.88	Cartels & Cutthroats	SSI	Apple
6.87	Crisis Mountain	Synergistic	Apple
6.87	**Miner 2049er**	**Big 5/Microfon**	**Apple, Atari**
6.87	Planetfall	Infocom	Many
6.86	Pursuit of Graf Spee	SSI	Apple
6.84	Battle for Normandy	SSI	Apple, Atari
6.82	Cytron Masters	SSI	Apple, Atari
6.82	Germany 1985	SSI	Apple
6.81	Championship Golf	Hayden	Apple
6.81	**Chess 7.0**	**Odesta**	**Many**
6.81	**Fighter Command**	**SSI**	**Apple**
6.77	Galactic Adventures	SSI	Apple
6.76	Rendezvous	Edu-Ware	Apple
6.76	Shamus	Synapse	Atari
6.75	**Reach For The Start**	**SSG**	**Apple, C-64**
6.75	President Elect	SSI	Apple
6.73	Star Maze	Sir-tech	Apple
6.71	Dnieper River Line	Avalon Hill	Many
6.67	Computer Gin Rummy	Datamost	Apple
6.66	Astro Chase	First Star	Atari
6.66	Napoleon's Campaigns	SSI	Apple
6.65	Escape from Rungistan	Sirius	Apple
6.65	Geopolitique	SSI	Apple
6.61	Witness	Infocom	Many
6.60	Ali Baba/40 Thieves	Quality	Apple, Atari
6.58	Suspended	Infocom	Many
6.57	Hard Hat Mack	Electronic Arts	Apple
6.56	David's Midnight Magic	Broderbund	Many
6.54	Ultima I	Cal Pacific	Apple
6.51	**Broadsides**	**SSI**	**Apple**
6.50	Sherwood Forest	Phoenix	Apple
6.47	Epidemic	SSI	Apple, IBM
6.46	Ringside Seat	SSI	Apple, C64
6.45	Tactical Armor Command	Avalon Hill	Apple
6.45	Worms	Electronic Arts	Atari
6.40	Apventure to Atlantis	Synergistic	Apple
6.40	Tigers in the Snow	SSI	Many
6.39	Galactic Attack	Sir-tech	Apple
6.29	Paris In Danger	Avalon Hill	Atari
6.28	Temple of Apshai	Epyx	Many
6.27	Mask of Sun	Ultra Soft	Apple
6.26	Swashbuckler	Datamost	Apple
6.21	Crush, Crumble Chomp	Epyx	Many
6.20	Zaxxon	Datasoft	Many
6.19	**Fortress**	**SSI**	**Apple**
6.19	**NATO Commander**	**Microprose**	**Atari**
6.17	Frogger	Sierra On-Line	Apple, Atari
6.16	A2-PB1 Pinball	SubLogic	Apple
6.15	Cannonball Blitz	Sierra On-Line	Apple
6.11	A2-FS1 Flight Simulator	SubLogic	Apple,TRS-80
6.07	Old Ironsides	Xerox	Apple
6.04	Robotwar	Muse	Apple
6.02	Way Out	Sirius	Apple, Atari
6.00	Cosmic Balance II	SSI	Apple, Atari
6.00	Empire of the Overmind	Avalon Hill	Many
6.00	Spy's Demise	Penguin	Apple, Atari
5.99	Swordthrust Series	CE Software	Apple
5.92	Time Zone	Sierra On-Line	Apple
5.94	Labyrinth	Broderbund	Apple
5.89	**Bilestoad**	**Datamost**	**Apple**
5.87	Marauder	Sierra On-Line	Apple, Atari
5.84	Close Assault	Avalon Hill	Many
5.79	A.E.	Broderbund	Apple
5.79	Aztec	Datamost	Apple
5.77	Snack Attack	Datamost	Apple
5.77	Torpedo Fire	SSI	Apple
5.77	**Beachhead**	**Access**	**C-64**
5.76	Tactical Armor Command	Avalon Hill	Apple
5.76	The Arcade Machine	Broderbund	Apple
5.75	Battle of Shiloh	SSI	Many
5.70	Serpentine	Broderbund	Apple, Atari
5.68	Andromeda Conquest	Avalon Hill	Many
5.67	Blade of Blackpoole	Sirius	Many
5.36	**Gruds in Space**	**Sirius**	**Many**
5.19	**Capture the Flag**	**Sirius**	**Atari**
4.94	**Caverns of Callisto**	**Origin**	**Apple**

INDEX — — — VOLUME THREE

The following index includes listing for the articles and games found in Volume Three. Each entry is accompanied by a line of information which includes (in order) the issue number, page number where the article/game can be found and a code as to the article type.

The article types give you a hint as to how much material you can expect to find on the listing in question. FA (feature article) means the subject is treated in a major article that is often more than one page long. MR (Micro Review) means the subject is treated in a small review usually from 400-600 words long. TP (Taking a peek) means the subject is mentioned in a short paragraph which gives a very brief description of the game and a screen photograph.

FA — Feature Article
MR — Micro Review
TP — Taking a Peek
MS — Miscellaneous

Six great games to make you really glad you own the COMMODORE 64™.

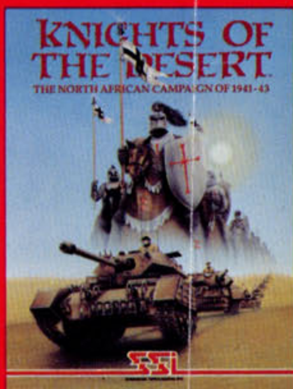
Playing games is probably one of the main reasons you bought the computer you did — the COMMODORE 64™. When it comes to games, there are none more sophisticated, challenging — and just plain fun — than the strategy games from SSI.

We made our considerable reputation by producing some of the finest games for the Apple®. To make sure all you C-64 owners out there don't get left out, we're converting as many of our games to your favorite computer as we possibly can.

Here are just six of our ever-increasing line of C-64 games. Best of all, they're all waiting for you at your nearest computer/software or game store — today!

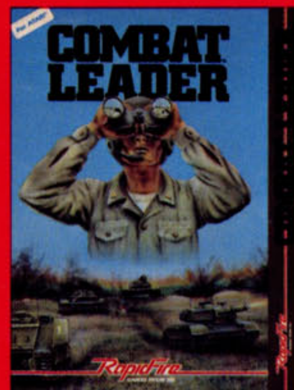
Our games are covered under a 14-day "satisfaction or your money back" guarantee.

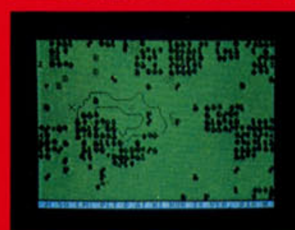
1. The North African Campaign of 1941-42 is faithfully recreated here. Just as knights on tall horses rode out on the First Crusade nearly a millenium ago, you'll have a chance to ride in your Crusader tanks against the invading Nazi forces. Disk & cassette. $39.95



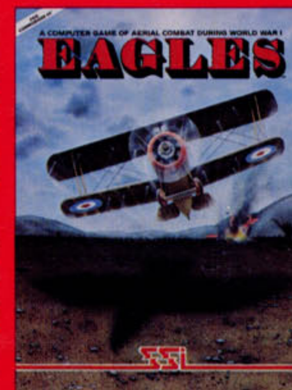


2. Here's a real-time wargame that gives you the speed of arcade games and sophistication of strategy games. It is one of the finest and fastest tank-battle games ever made. You can choose from over 70 tanks, from the Nazi Tiger to the Abrams M-1. Disk & cassette. $39.95



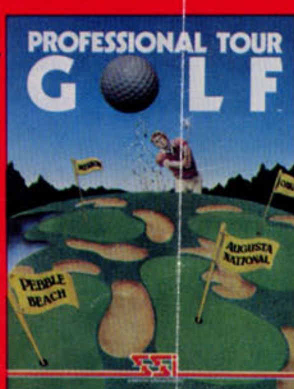


3. Take to the skies with your trusty Sopwith Camel or Fokker DR-1 or any number of World War I planes. You can set up duels between two planes or stage grand dogfights involving as many as 20 planes. On disk. $39.95



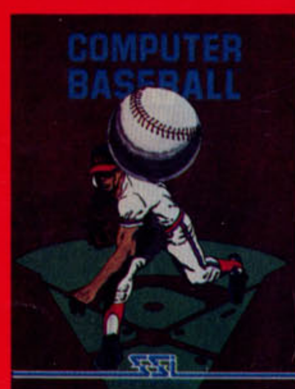


4. If you've ever dreamed of playing the pro-tour golf circuit on the world's finest courses with the likes of Arnold Palmer and Jack Nicklaus this game is your dream-come-true. The famous Pebble Beach course is faithfully reproduced. This is golf simulation at its best! On disk. $39.95





5. Voted "1982 BEST COMPUTER SPORTS GAME" by Electronic Games magazine, Compute Baseball™ lets you manage any NL and AL teams of past and present. All the options of a real manager are at your disposal. You can even make up your own imaginary teams! On disk. $39.95





6. You can set up your own championship bouts using real champs to answer the age-old question: Who really was the greatest of all time? Could Joe Louis outwit Muhammed Ali? Could Jack Dempsey outslug Larry Holmes? Best of all, you get to manage! On disk. $39.95





Screen displays are not necessarily from the Commodore 64™

STRATEGIC SIMULATIONS INC

If there are no convenient stores near you, VISA & Mastercard holders can order direct by calling **800-227-1617, ext. 335 (toll free).** In California, call 800-772-3545, ext. 335.

To order by mail, send your check to: STRATEGIC SIMULATIONS INC, 883 Stierlin Road, Bldg. A-200, Mountain View, CA 94043. (California residents, add 6.5% sales tax.)

WRITE FOR A FREE COLOR CATALOG OF ALL OUR GAMES.